

All the Way with the RMA?¹
The Maginot Line in the Mind of Australian Strategic Planners

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Dr Adam Cobb
Director
Stratwar.com

"If you entrench yourself behind strong fortifications, you compel the enemy to seek a solution elsewhere."
CLAUSEWITZ

INTRODUCTION

The Australian Defence Force (ADF) faces a range of significant challenges that have arisen from past policy mistakes, changes in the strategic environment, new national aspirations for an enlarged role in the world and a concomitant increase in government demands on the defence forces. Left unaddressed, the military effectiveness of the ADF will rapidly decline at a time when Australia's security could come under serious threat for the first time since WWII.

While our fighting men and women have proved through history and in recent conflicts that they are among the worlds finest, the same assessment cannot be made of the bureaucracy supporting them. The Department's finances, personnel numbers, force structure, acquisition strategy, and strategic policies are in various states of disarray.

Much store has been placed on a vague notion of a "Revolution in Military Affairs" (RMA) as the silver bullet that will solve many of the Department's otherwise intractable problems. But ADF efforts in this endeavor are at best patchy – a few visits from important US thinkers, a local conference starring American speakers, and a few papers regurgitating US arguments.

When an organization is so dependant on its ideas from an external source patchy performance should not come as a surprise. Indeed as the key defence debate in the US rapidly shifts away from the technologically focused RMA to the much broader concept of "transformation", it can be expected that the same shift will occur in ADF thinking.

The transformation question is a much more important one for Australia, sitting as it does at a major strategic/policy/acquisition cross road. How the RMA will work for the ADF is a third or forth level priority below the much more complex and pressing questions of how has the strategic environment changed, what are the threats and opportunities presented by the advent last September of the age of surprises, what is the role of force in the broader security matrix, what changes in policy are required to meet future and existing contingencies, what changes to force structure will be needed to service policy, what new combinations of technologies can deliver effective military capabilities, how many people are needed to defend Australia, how much will it all cost and can the public be induced to pay the bill?

This paper will seek to situate the issues raised by the RMA idea within the broader transformation question in the Australian context. There are a number of issues

¹ At a joint press conference between the two leaders during the US President's tour of Australia in 1966, Prime Minister Harold Holt famous pledged that Australia was "all the way with LBJ" in the war in Vietnam.

indigenous to Australia that will cause this investigation to arrive at answers that are not applicable elsewhere and yet there is much that will resonate with the non-Australian reader.



BACKGROUND

Any casual observation of a map of Australia combined with the knowledge that ADF personnel would not fill $\frac{1}{2}$ of the seats of the Sydney Cricket Ground, will tell the observer that Australia desperately needs force multipliers! Roughly the size of the continental US with the same population as the State of Texas, the majority of whom are crowded into 3 major cities in the South East of the continent - with much of the remainder of the country covered in inhospitable desert and jungle - Australia is a huge empty country. If one then adds the sea and airspace for which the government is responsible it transpires that the ADF is charged with surveilling and defending 10% of the Earth's surface with just 0.02% of the US defence budget and $\frac{2}{3}$ rd's the number of US troops based in Germany.²

That job might be made easier if the ADF had the same kind and number of ships, tanks, artillery pieces, aircraft, satellites, missile systems etc, of US forces in Germany³ – but in reality it has drastically fewer platforms, systems, and materiel, much of which is rapidly becoming obsolete. By 2015 almost all major Australian Army, Navy and Air Force combat platforms will need to be retired and currently there is very little planning and funding for their replacement.

On taking office in late 1999 the Secretary of the Department of Defence⁴, Dr Allan Hawke, stated that the department had lost the confidence of the government and the

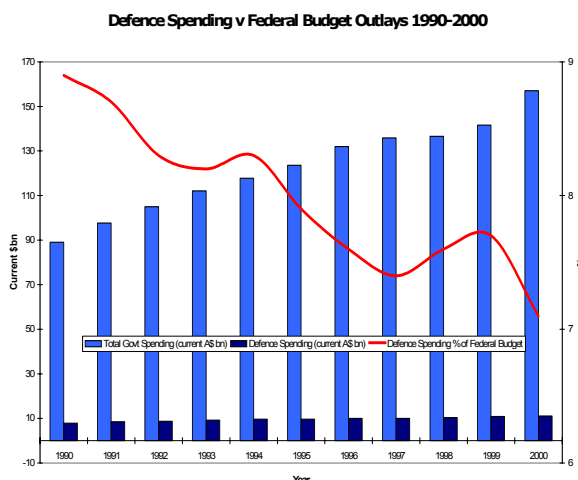
² According to the US DoD website in FY2001 the total US defence budget was US\$291.1bn. The Australian defence budget for the same year was ca. US\$6bn. For the US see: http://www.defenselink.mil/news/Feb2000/b02072000_bt045-00.html, for Australia see: <http://www.defence.gov.au/budget/>. ADF personnel stands at around 50,000, US deployed troops in Germany stand at 71258, see <http://web1.whs.osd.mil/mmids/m05/hst0601.pdf>.

³ Or adjacent to Germany in the case of ships.

⁴ In the Australian system the Secretary of the department holds equal power with the Chief of the Defence Force. While their job titles might suggest different functions officially they are both charged with leadership of the department and forces as a whole. Moreover there are two separate Headquarter systems – one for Administration (HQADF) and one for Combat (HQ Australian Theater).

people, and its finances were in a "parlous" state.⁵ From 1989 until 2000 the defence budget was allowed to drift downwards from 9% to just 7% of total government outlays, which equates to a trifling 1.8% of GDP.

There was no decline in the beyond the illusive peace-security treaty the related hope environment following the end of the Cold War. None of these factors persisted. In fact the strategic deteriorated - of East Timor from the "arc of instability" to north, and the outbreak of the War on Terrorism - and continues to increase at an increasing rate.



rationale for this defence budget anticipation of an dividend, a fragile with Indonesia, and that the strategic would improve of the Cold War. factors persisted. In environment with the separation Indonesia, the rise instability" to north, and the War on Terrorism - do so at an

Little has changed in defence finance since Dr Hawke made his famous statement. In 2000, the government issued a [White Paper](#) which is widely regarded as one of the most ambitious in history due to its exacting detail on financial arrangements and capability projections. To many it represented a silver bullet capable of fixing all of Defence's woes. Of course the reality is much more complicated.

Promises made in White Papers have seldom been converted into policy. For example, both the 1987 and 1994 Defence White Paper's recommended funding increases to bring defence spending to the level of 2.6 - 3% and 2% of GDP respectively.⁶ Yet in 1987-88 the actual outlay was in fact *cut* by 1.1%.⁷ The same trend appears to be emerging again.

While defence budgets shrunk over the past ten years, the operational tempo of the ADF has skyrocketed. The ADF has been committed to operations in the Gulf on two occasions, North West Africa, Cambodia, Rwanda, Somalia, Bougainville and East Timor. The East Timor, Bougainville, and War against Terrorism commitments seem likely to continue for some time.

These hitherto unprecedented "peacetime" pressures have revealed that **the ADF is a hollow force**. The huge costs associated with enhancing readiness and surging personnel numbers to meet the operational demands of the largely benign East Timor deployment, estimated at around \$4bn proves this beyond doubt (bearing in mind the annual defence budget is \$12bn).

⁵ Dr Allan Hawke, Secretary of Defence, "What's the matter – a due diligence report", Address to the Defence Watch Seminar, 17 February 2000; Hawke, A., 'Money Matters', Address to the Royal United Services Institute of Victoria, 27 April 2000, 2000, p.12; Hawke, A., 'One Year On', Address to the Defence Watch Seminar at the National Press Club, 27 February 2001.

⁶ Joint Standing Committee on Foreign Affairs, Defence and Trade, *Funding Australia's Defence*, AGPS, Canberra, 1998, p.27

⁷ Ibid p.20

The fact that the ADF would have “run out of” forces (and money) in the event of either combat operations or the need to sustain a 4000-strong force over a prolonged deployment (more than 9 months) is a damning indictment of the state of Australia’s armed forces.⁸ In other words, there is sufficient funding for the existence of the ADF, but not for its use.

For the first time in history during the East Timor operation the major capital projects budget was raided to fund operations. In a telling turn of events, this regrettable precedent was repeated after the outbreak of the War against Terrorism. All the funds earmarked for major capability spending announced in the 2000 White Paper have again disappeared into operational and personnel budgets.

The hollowness of the force might be manageable were it not for the deep crisis in defence finance and the incredible pressures of block obsolescence. It appears that until recently the Department of Defence has maintained accounting standards and practices not dissimilar to those exposed in recent Wall St scandals. Not only is there a hole in the current budget, the department forecasts that it will need an **additional \$88-110bn** over the next 20 years just to maintain existing levels of capability. With defence spending averaging \$12bn per annum, the figure quoted effectively demands that current spending be doubled between 2000-2020.

Defence spending is presently at its lowest level as a percentage of GDP since the Great Depression. The last time it was so low just before the outbreak of WWII.

“The bottom line is that Australia can no longer afford a balanced, self-reliant, capable, and ready defence force of 50000 with its current capabilities on 1.8% of GDP”.

Secretary of Defence, Dr Allan Hawke.

However, the political reality is that any increase in funding will be *an order of magnitude less* than the funds demanded by the department. The White Paper commits the government to spend up to an additional \$500m per year on defence following unanticipated gains in revenues from the new tax system⁹. But even if those funds were not spent on operations as they are currently, that still falls well short of the department’s demands for an **additional \$4.4bn to \$5.5bn per year for the next 20 years!** Clearly, the Department will have to decide what capabilities it is prepared to lose in order to remain financial.

Since 1989, and in particular under the current government, Australia’s role in the world has grown and become more independent – witness East Timor and Australia’s China policy. But glaring problems in ADF force structure, readiness, and personnel numbers are beginning to undermine the credibility of the new foreign policy. Following the post-Cold War trend, Governments will demand more of the ADF in the future across a wider spectrum of activities. Indeed, in a critical departure from past policy that concentrated solely on continental defence, Defence Minister Hill stated in July 2002 that the Australian Defence Force (ADF) “is both more likely to be deployed and increasingly likely to be deployed well beyond Australia”. Therefore the ADF would be well advised to think creatively about how it spends its much needed new funds.

⁸ Mr Hugh White, then Deputy Secretary Strategy, comments during a “Defence Strategy Debate” held by the Defence sub-committee of the Joint Standing Committee on Foreign Affairs, Defence and Trade, Parliament House, Canberra, 30 June 2000. Hugh White is now the Director of the new [Australian Strategic Policy Institute](#), chaired by Professor Bob O’Neill.

⁹ In 2000 the federal government introduced a 10% broad-based “Goods and Services Tax” which has delivered a revenue windfall substantially above government predictions.

In particular, if the department's estimates of over-coming block obsolescence are anywhere near the mark (\$88-110bn), strategic planners will need to adopt *radically* different force structures, strategic policy and new doctrine in order to maintain a credible national security policy. Current and future governments of Australia will be looking to enhance military capabilities with fewer, smarter platforms, sensors and munitions. Force multipliers will be critically important for this huge nation with its shrinking defence budget.

THE AUSTRALIAN DEFENCE FORCE HAS COMMITTED ALMOST 1/3RD OF ITS ORBAT TO THE WAR ON TERRORISM:

- One LPA, HMAS KANIMBLA, functioning as a command and control platform.
- Two FFG's, HMAS SYDNEY and ADELAIDE, to perform escort and interception tasks.
- Four FA/18 Hornet fighter aircraft.
- Two P3-C Orion maritime surveillance aircraft.
- Two KB707 tanker aircraft.
- C-130J Air bridge to Diego Garcia and the Gulf
 - Assisted by Antonov aircraft on lease
- A 150-man Special Forces Task Group.
- A detachment from 16 Air Defence Regiment to provide an air-defence capability for HMAS KANIMBLA.
- An Australian National Command Element
- A further currently unnamed frigate.

The real importance of the RMA for Australia is the promise of maintaining existing levels of military capability but at a lower cost. It should not come as a surprise therefore to discover that the ADF has grasped onto the notion of the RMA not without some zeal. Exactly how the RMA might deliver more with less is a matter of serious speculation. Aside from considerable barriers to entry, such as access to source codes, sufficiently advanced infrastructure, exorbitant costs, and the lack of proven technologies (as opposed to concepts like the JSF), there are counter-claims to be made that going 'all the way with the RMA' may not necessarily be the answer to all of Australia's politico-military and financial problems.

Moreover, with characteristic introspection, no one within the defence establishment has yet realized that the ideas, technologies, organizations and methods posed by the RMA will most likely turn out to be more useful

to those seeking to conduct asymmetric attacks against Australia's incredibly vulnerable heartland,¹⁰ than to a potential aggressor state seeking to conduct major conventional warfare against Australia or its interests – which is currently the sole focus of Australian RMA thinking, conferences and war games.

As in the past, there is no doubt that new technologies, ideas, and organizational structures, have the *potential* to substantially aid the ADF's preparations for major conventional conflict. There is absolutely nothing new in that proposition and it applies to any defence force in the world. To exclude how potential adversaries – in particular non state actors such as terrorists – might circumvent conventional/RMA defence measures is negligent. Indeed a powerful critique of the RMA approach is that the existence of an all powerful conventional military force will merely force an opponent adopt more radical asymmetric countermeasures, such as those used on September 2001.

In the US the RMA debate has already shifted to a debate about defence transformation which begs a number of more interesting questions than the more technologically focused RMA debate. In short the transformation debate goes back to basics and demands a re-examination of the axioms upon which current policy rests.

¹⁰ Cobb, A. C., *Thinking About the Unthinkable: Australian Vulnerabilities to High-Tech Risks*, Information and Research Services, Parliamentary Library, Parliament House., Canberra, 1998. See <http://www.national-security.info/Cyberterrorism.htm>.

Specifically, what are Australia's national interests, how might they be challenged, what threats and vulnerabilities exist in Australia's defences, what is the contemporary role of military force in protecting national interests, and how should the ADF be structured to best meet the new security challenges of the 21st century given extant and foreseeable threats and resources. These are the big questions that must be resolved before any discussion of the application of advanced military technology takes place.

HOW HAS THE STRATEGIC ENVIRONMENT CHANGED? THE ADVENT OF THE AGE OF SURPRISES

The year after the Berlin wall fell John Mearsheimer presciently but provocatively wrote that we would become nostalgic for the Cold War!¹¹ He was referring to the certainties embodied in the bi-polar standoff that kept all other international problems in check. By comparison to the period that followed, which was so indistinct as to be unidentifiable, the Cold War was clear and simple.

In a word, uncertainty was the key characteristic of the 'post Cold War' period. It was clear that the period was not to be one of extended peace as had sometimes followed great wars in history. Like the interwar period of the 1920s and 30s, the 'post Cold War' world was an interregnum, an age of anxiety, where great shifts in power were taking place that did not have a distinct predictable conclusion. In a period that the idealists had hoped would portend a new world order built on international justice, a whole gamut of mostly 'small' conflicts erupted all around the world, in the Gulf, across Africa (Rwanda, Somalia, Sierra Leone), the Balkans, Chechnya, Afghanistan, South Asia, and so on, that took advantage of the abandonment of old Cold War alliances and ways of doing business.

The only core theme in all these conflicts was that they took place in the periphery. Armed with the guilt that peace between the great powers had unleashed tragedy in the periphery and with nothing else to do with their armed forces, the western nations tried to absolve their guilt by intervening in the tragedies taking place on the fringes. The era of UN sanctioned humanitarian intervention that followed had mixed results but it was clear that the future of world history would not be determined by blue berets.

When a fully laden 767 ploughed into the side of the World Trade Centre on live television, the 'post Cold War' period ended. The uncertainty of the interregnum had been replaced by a more sinister unknown, the ambiguity of terror. At that catastrophic moment, the age of anxiety gave way to the age of surprises.

In an interesting twist, the advent of renewed great power struggle was not between great powers but rather at the intersection of the centre and the periphery. The struggle is between a disparate mass of people sharing little in common beyond varying degrees of attachment to a fanatical idea dressed up as a religious duty, and the most powerful state the world has ever seen. The tools used in the first devastating salvo of the new war were not advanced, high-tech, system of systems, satellite linked, sensor to shooter, OODA loop-crushing, long range stand off precision strike, fire and forget marvels of modern military industrial might, but a garden variety mode of transport turned into a (strategically, politically, and kinetically) devastatingly powerful cruise missile.

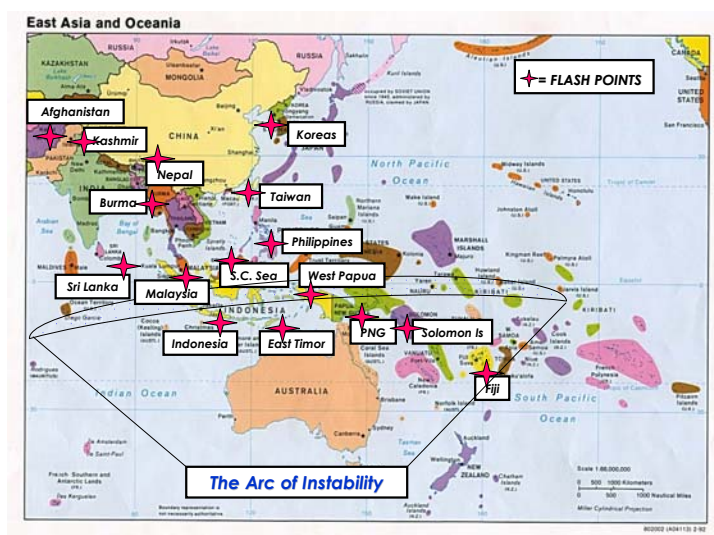
¹¹ Mearsheimer, J., 'Why We Will Soon Miss The Cold War.' *The Atlantic*, vol. no. August, 1990, p. 35-51.

The surprises do not end there nor do the comparisons with the interwar period. Great political change has recently also been accompanied by the re-emergence of systemic economic failure. The Asian, and latterly the American, Financial Crises have arisen in conditions similar to those preceding the great depression's of 1890 and 1929. The great deregulation crusade undertaken by the western democracies over the past 20 years in the name of free trade has repealed a range of measure that were designed to curb the excesses of unfetter capitalism that contributed to earlier global economic and strategic crises.

THE ARC OF INSTABILITY

Like the 1929 stock market crash, Pearl Harbour, and the collapse of the Berlin Wall, September 11 represents a sea-change not just for the US but for global security. Australia is not immune from the shockwaves reverberating from ground zero. On the contrary, Australia is already surrounded by an arc of instability, a collection of failed states, insurgencies, economic and political basket cases, and in some cases outright anarchy. Interweaved through this volatile mix are age old ethnic, religious, and political enmities that were largely subdued first by the cold war competition and more recently by rapid economic growth. Both of these overlays have been ripped away exposing a fragile and vulnerable collection of territories that make up the arc of instability stretching from Australia's doorstep deep into the Asia Pacific region. The new overlay of the global war against terrorism, declared by Osama bin Laden as a Muslim jihad against the west, will only serve to further destabilize the arc and adjacent territories which are predominantly Muslim.

A strategic shift against the existing order within the arc, which could be argued is already under way as a consequence of the Asian Financial Crisis, could put very considerable pressure on Australia. By comparison to its neighbors, Australia is an isolated outpost of global capitalism, democracy, and western values, in a sea of economic turmoil, poverty, corruption, political unrest and growing anti-western anger.



Sitting astride one of the world's key maritime choke points, Indonesia is also the world's fourth most populous country and the world's largest (moderate) Muslim state. But for how long will it remain moderate? Indonesia has endured an extraordinary reversal of fortune

from Tiger economy to paper tiger in just a few short years. It is a classic example of the range of problems that can be found throughout the arc of instability.

Triggered by the Asian Financial Crisis in 1997, Indonesia's economic, political, and strategic landscape has been turned upside down.

Annual per-capita income had already been reduced from US\$1,200 before the crisis to \$300; stock market capitalization is down from \$118bn to \$17bn; [and] only 22 of Indonesia's 286 publicly listed companies are considered solvent.¹²

The decline in Indonesia's GDP in 1998 was "similar to that which occurred *in total* during the worst of the Depression years (1929-32) in the United Kingdom".¹³ The World Bank reported that

*Indonesia is in a deep crisis. A country that achieved decades of rapid growth, stability and poverty reduction, is now near economic collapse... No country in recent history, let alone one the size of Indonesia, has ever suffered such a dramatic reversal of fortune.*¹⁴

History tells us that rapid political, economic and social change result in extreme societal vulnerability. Consequently, it should not come as a surprise that in the case of contemporary Indonesia, the turmoil following the financial crisis lead to social unrest across the archipelago. In addition to widespread riots in the capital, Jakarta, outright insurrection was unleashed in a number of provinces from Aceh to East Timor and West Papua. It was not long before the hitherto indefatigable Suharto military dictatorship collapsed. The resulting power vacuum contributed to the surge for independence by the people of East Timor; the imposition of an international military force on what the Indonesia military had claimed as sovereign territory, and eventually the creation of a new independent sovereign state adjoining Indonesia territory.

Indonesia continues to suffer rapid political change and instability, has instituted unpopular and unsuccessful economic reforms, has lost or faces losing territory to break-away groups and in the past has conducted prolonged military campaigns to prevent this from happening, continues to suffer serious morale problems in an increasingly marginalized (but in some respects still powerful) military, has a turbulent history of revolution and war sparked from within, and is currently adrift and exposed to the possibility of coup d'etat.

On top of this laundry list of troubles must now be added a growing Islamic fundamentalist movement seeking to exploit domestic political instability and "Arab street" outrage at the war on terrorism, in order to enlarge its powerbase. Extreme politics has been a prominent feature of Indonesia's history ameliorated only through acquiescence to military dictatorship in the name of national unity. With the TNI in retreat if not disarray and the political system in turmoil, the time could be ripe for renewed upheaval.

¹² Dibb, P., Hale, D.D., and Prince, P., 'The Strategic Implications of Asia's Economic Crisis.' *Survival*, vol. 40, no. 2, 1998, p. 11.

¹³ Hill, H., 'An Overview of the Issues', in H. W. Arndt, and Hill, H. (ed.), *Southeast Asia's Economic Crisis: Origins, Lessons, and the Way Forward*, Allen and Unwin, Sydney, 1999, pp.1-8, (emphasis in the original).

¹⁴ World Bank, *Indonesia in Crisis: A Macroeconomic Update*, World Bank, Washington DC, 1998, p.1, (emphasis added).

As the above map indicates, the arc of instability is replete with flash points across the threat spectrum from unstable nuclear standoff in South Asia, to a string of failed states in the South Pacific. To the long standing disputes on the Korean peninsula, across the Taiwan straits and in the South China Sea, can be added the war on terrorism currently taking place in Afghanistan and the Philippines.¹⁵ In addition to the existence or potential for outright conflict can be added the full panoply of 'new' security agenda items that so often accompany terrorist activity, such as organized crime, drug trafficking, money laundering, piracy, people smuggling, organized corruption, political intimidation and assassination.

Overlaying all of these tensions and troubles is what appears to be the contagion of the symptoms underpinning the Asian Financial Crisis to Wall St, and through it to the world financial system. Corrupt accounting practices, deregulation, and rampant greed were just as fatal to Enron, WorldCom, Xerox, HIH, and Ansett as they were to the various Asian banks and corporations that collapsed in 1997. Significantly while much lip service has been paid to the recovery in Asia, many of the structural issues exposed by the crisis remain, further threatening regional stability. Obviously the health of the US market and institutions is critical to the whole system and the more threatened they become the worse it is for all.

In thinking about contemporary Asia it is important to remember that in Europe industrialization developed unevenly and was the source of both profit and conflict. In the East the historical influences of industrialization still has to be played out. In this context it remains to be seen to what extent the industrializing countries of Asia can bypass the pitfalls of the process of industrialization. If the Asian Financial Crisis is anything to go by, there is not too much room for optimism. The technological revolution and its globalizing effect would seem to suggest that Asia's transformation will be much faster than that of Western countries. Yet speed can be a complicating factor in great societal and international transition.

As the Asian Financial Crisis demonstrates, those that experience the trials and tribulations of industrialization in the late 20th Century have to accommodate rapid change in increasingly short timeframes. This naturally puts pressure on the polity and society and strains are likely to emerge, in and between states. To the extent that these pressures place unbearable burdens on international relations thereby contributing to conflict between states is a matter for future observation, but if history is a guide the future could be quite bleak indeed.

THE UTILITY OF FORCE

With inter-generational structural unemployment, disillusionment with traditional forms of politics, deepening divisions along racial and ethnic lines, growth of anti-immigration movements, widespread job insecurity, high levels of financial corruption and an inability of conventional policy prescriptions to address any of these issues, the international political economy in some mature economies is beginning to demonstrate parallels with the inter-war years. As E.H. Carr convincingly argued of the period 1919–1939, the failure of the democracies to understand and overcome the destructive excesses of the policies that led to the Great Depression, left a policy vacuum that the totalitarian

¹⁵ Of course the struggle against the Abu Sayyaf in the Philippines has been going on for decades but it has recently taken on a new dimension in light of the attacks on the US.

powers eagerly filled.¹⁶ There are also parallels in the strategic context. As the economic outlook continues to decline for many mature economies, which also happen to be *status quo* powers, the chances are that revolutionary powers will seek to champion their alternative either by demonstration, or worse, by force. As a rule, revolutionary powers have been much more imaginative than *status quo* powers in their adaptation of new technologies, doctrine and organizational structures for waging new ways of war.

The very significant divisions between rich and poor states¹⁷ also apply to the way of war among and between them. Aside from the natural humanitarian concerns that attend any war, conflicts in the periphery tend not to be reported by the world's press and thus do not gain much attention. The tools of these wars are rudimentary and ubiquitous, for example, famine, the AK-47 and landmine. Because the causes of many of these conflicts are deep and intractable, their solution so elusive, their greater significance to the rest of the world often remote, and the means of war so readily available, the resort to the use of force is futile but frequently made.

The same does not apply for war among wealthy states or between them and poor states (and non state actors). For wealthy states, due to a range of factors from technology to shifting international and domestic norms, the use of force has an increasingly narrow utility. Whereas in cases where poor states (and especially non state actors) believe that they have nothing to lose in conflicts with wealthy states, the niceties of International Law and public opinion matter little to them. Indeed the development is so distinct as to suggest a *law of inverse proportion*. **As the use of force becomes more limited for status quo powers, its utility grows for revolutionary powers. Similarly, the more advanced conventional military forces become, the less secure status quo powers are to unconventional attack from low-tech revolutionary powers.**

There are many significant limitations on the use of force in the contemporary international system for status quo powers. If a great wrong has occurred, non-violent means of resolving the dispute have been exhausted, there is just cause to respond, the UN Security Council sanctions action, a coalition of the willing can be formed, innocent casualties can be minimized, and an opponents centre of gravity is exposed to physical assault,¹⁸ the application of precise and devastating military force can have fantastic utility. But these conditions rarely obtain in contemporary international disputes.

The 1991 Gulf War is the only recent instance where all these conditions coalesced to permit an advanced western state to wage war with effect. Saddam Hussein's gross miscalculation that an Iraqi invasion of the tiny Gulf state of Kuwait would be considered a local affair in the absence of Cold War tensions between the superpowers, was as blatant and crude a violation of sovereignty as North Korea's invasion of the South in 1950 or Hitler's invasion of Poland in 1939, and invited immediate and resolute international action.¹⁹ Even arch American enemy Syria joined the US led coalition, in recognition of the simple fact that if they appeased Saddam they could be next on the list.

¹⁶ Carr, E. H., *The Twenty Years Crisis 1919-1939*, Macmillan, London, 1939; Carr, E. H., *Conditions of Peace*, Macmillan, London, 1942; Carr, E. H., *Nationalism and After*, London, 1945.

¹⁷ There are a lot of sensitivities about labelling the political and economic status of states, but few would doubt that most of the divisions between the west and the others, or first and third, or developed and developing, basically correlate with rich and poor. For that reason the rich/poor shorthand will continue to be used here.

¹⁸ This criterion is particularly important and often overlooked.

¹⁹ There have been other outright invasions since Hitler's conquest of Europe, notably Soviet activity in enlarging the iron curtain but these were less clear cut given the Yalta settlement and fears of nuclear war.

Furthermore the vast expanse of flat desert that comprised the theatre of operations was uniquely suited to a lightening air-land campaign – the kind of campaign the US and its NATO allies had long prepared for and anticipated against the Soviets on the central plain of Europe. Indeed Iraq's order of battle was almost wholly Soviet in design ensuring the continuity of past US training for such a contingency. The fact that Iraq's armies were full of conscripts more frightened of Saddam than the allies also helped tremendously.

The Gulf War was a paradigmatic war for the 21st Century but for paradoxical reasons. Rather than being a harbinger of future wars as many RMA theorists contend, it foretells of what war will not be.²⁰ It demonstrated that in conventional force on force conflict (where all the above noted caveats hold) the side with the qualitative lead holds a disproportionate advantage in combat.²¹ This realization had two important consequences. First, it was clear to states that could afford it that rapid military modernization was necessary to survive (deter) modern conventional combat. Second, for everyone else, it became obvious that conventional combat should be avoided at all costs.

REVOLUTION!

The divergence of implications of the Gulf War for rich and poor has strategic consequences. The US and its allies, especially Australia, became deeply engaged in efforts to understand what led the US to its sudden unexpected victory over the worlds forth most significant military force.²² Irrespective of all the unique aspects attending the conflict noted above, because the US had such an obvious technological advantage over Iraq, that factor was quickly seized on as the fundamental key to victory.²³ That victory was so fast and so absolute over what should have been a potent adversary, many analysts came to the conclusion that technology could now be said to have a revolutionary impact on military affairs.

Tolstoy once wrote that war is the locomotive of change. It certainly seemed so in the heady days of the 1990s. Talk of revolution was rife. Like the industrial revolution before it, the information technology (IT) revolution of the 1990s appeared to be sweeping all before it creating a new ruling class, a new economy, even a new society at home and abroad – from Machiavelli to Microsoft in a single decade.

²⁰ At least between rich and poor. War between the poor will continue its futile course and war between the rich has been rendered obsolete militarily by the RMA and strategically by a long and complex range of political and economic developments.

²¹ This statement holds so long as the set of conditions noted at the start of this section holds. terrain is amenable to conventional warfare and there is not some kind of disproportionate support for the under-dog (as in Vietnam). The qualitative lead could be across a range of factors, the will to win, training, strategy, technology, force structure, command and control, and so on.

²² In addition to the sheer size of its army, Iraq possessed quite capable military technologies of its own including first tier Soviet military hardware such as AEW&C aircraft, SAM systems, and electronic warfare capabilities.

²³ It also helped that the impact of technology was easier to measure than the other qualitative advantages US forces enjoyed over their opponents and dovetailed neatly with the technologically driven interests of military planners.

It was little wonder then that the idea of a Revolution in Military Affairs (RMA) captured the imaginations of strategic thinkers everywhere. The fact that the technologies concerned and the strategy for using them in a major conventional air-land campaign had evolved over decades of careful thought and planning mattered little. Watching a satellite guided²⁴ cruise missile, launched from thousands of miles away, navigate its way around downtown Baghdad before flying in the window of a target, appeared to be very revolutionary. On one level of course it did represent a quantum leap in the way of conventional war, but on another level it was only the latest iteration of the V-1 buzzbomb used by the Nazi's over London in the blitz.

Some analysts argued that the revolutionary aspect of the cruise missile (for example) was therefore to be found in the real time, integrated systems supporting its targeting, flight, navigation, mid-course redirection, real-time TV image relay of its progress, and pinpoint accuracy. Moreover the integration of multiple layers of systems, from sensors to shooters, into a coherent whole which could be used with considerable precision was unprecedented in warfare.²⁵ When one considers that thousands of cruise missiles had to be controlled at the same time as thousands of aircraft, ships, armored vehicles, and combat troops delivered millions of rounds of ordinance with a degree of accuracy unprecedented in the history of war - in a timeframe best measured by hours - the effect of the whole could be said to be revolutionary.

The *effect* was revolutionary but individual technologies, plans, tactics and strategies were not. US victory in the Gulf was no accident. It was engineered over decades, albeit for a different purpose than expelling Saddam Hussein from Kuwait. An assessment of opposing US and Soviet forces in Europe during the Cold War demonstrated that while the Soviets had a marginal technological disadvantage compared to US forces, they could easily overcome this problem by virtue of the sheer mass of forces at their disposal. The Americans initially attempted to overcome this dilemma by deploying tactical nuclear weapons. Aside from the political, command and control, and security risks associated with small nukes, it was eventually accepted that they posed an unacceptable risk of escalation if used in combat.

Consequently, the US concentrated on its only remaining option, which was to turn its technological advantage into an absolute superiority. The 1991 Gulf War was the first time the resulting high-tech force was used in major conventional combat and the results exceeded even the most optimistic assessments of success, giving the impression of a revolution in military affairs.

There was an RMA but it was not what it seemed. The Gulf War had a very significant unintended consequence. American attempts to develop a qualitative lead over the vast numerical superiority of the Soviets was *too successful*. That strategy rendered large scale conventional warfare obsolete - at least in conflicts where one participant had a moderately well developed 'RMA force'.

RMA DRAWBACKS

While making major war obsolete might excite the peace activists, the reality is much more complex and menacing. There are at least six major problems that arise from this development. First, the RMA force concept is configured for major conventional war.

²⁴ In 1991 the satellite guidance was mostly terrain mapping systems whereas today GPS systems are used to guide cruise missiles.

²⁵ William Owens (Former Vice Chairman JCS, *Lifting the Fog of War*, 2000, Farrar Straus & Giroux).

Adopting an RMA force structure not only shapes the options available to strategic planners, it also acts as a lens through which problems are viewed and assessed. There exists the possibility that contingencies that lie elsewhere on the threat spectrum will be misinterpreted or ignored altogether.²⁶

Second, invincibility or worse, a false sense of invincibility that may attain to an RMA configured force, could lead to catastrophic underestimation of an opponent. A force that believes itself to be invulnerable might dismiss or underestimate an opponents strength, will, or commitment. Similarly grave consequences could arise if rigorous analysis of an opponents strategies, tactics, tools, and possible target selections are not paid due consideration.²⁷

Third, there are many types of conflict and terrain for which the RMA concept is not well suited. Civil war, insurgency, guerilla war, and terrorism do not lend themselves to successful interdiction by massed precision artillery, armor, air, naval and space assets. Likewise rugged mountain ranges, thick jungle, littoral and archipelagic regions, and large dense urban environments present very different challenges even to an RMA force than a vast flat expanse of desert. All of these types of terrain are typical of SE Asia.

Fourth, the concentration on making conventional military force invincible ignores important historical trends. Over the past two hundred years, organized violence has increasingly concentrated on civilian targets.²⁸ Ever since the Russians denied Napoleon Moscow, the focus of war has shifted from being the narrow preserve of governments and their militaries to involve entire civilian populations. One of the key reasons behind this shift has been the changing nature of the centre of gravity. Today the calculation of America's or Australia's centre of gravity would include the disposition and strength of the military but would also be heavily dependant on the disposition and strength of the economy, polity, and critical infrastructures – of society itself. Yet again the Iraq example is the exception to the rule. Saddams power emanated from his control of the Army. Hence the army was, and remains, Iraq's centre of gravity. However, in most wealthy western states, the armed forces contribute to, but do not define, a nation's centre of gravity. A fact demonstrated by the pattern of conflict over the past 100 years. This fact merely reinforces the inverse rule of war between rich and poor outlined above.

Fifth, at the same time the tools of conventional conflict have rapidly grown in complexity, the tools of the drug baron and terrorist have proliferated. During the past fifty years there has been a fantastic proliferation of all kinds of infantry weapons around the world as a result of the Cold War protagonists arming their proxies. These weapons form the backbone of every kind of miscreant organization known to mankind, from local gangs to organized crime to terrorist organizations. Combined with advanced civilian technologies such as encrypted computer networks, hacking tools, and mobile phones, the AK-47 has empowered millions to create the kind of "low intensity" havoc that RMA forces are not particularly well equipped to fight. Indeed this points to the chasm that separates the way of war between rich and poor. While the rich plan to do high tech RMA battle the poor are getting on with it using machete's and AK-47s – which also happen to be key tools of the terrorist. This is the obverse of the centre of gravity point above, namely that if the centre of gravity of terrorist force is of a physical kind it is

²⁶ As will be discussed below, there is very strong evidence that this has happened in the case of Australia.

²⁷ One immediately thinks of allied estimations of the Japanese before Pearl Harbour and the fall of Singapore. See for example, Dower, J. W., *War Without Mercy: Race and Power in the Pacific War*, New York, 1986.

²⁸ Of course conquest and domination of entire people's has always been a feature of history, in the modern era there was a period that revolved around the professionalisation of the militaries with their conduct on the battlefield as the sole determinant of victory in wars.

likely to be widely dispersed and thus not sensitive to conventional military attack. Even worse, if the terrorists centre of gravity is an idea (like fundamental extremism of one kind or another) it could well be impervious to the use of force. Indeed, as the results of bombing campaigns on civilian targets in WWII demonstrated, the more force is used the greater the will and resolve of those resisting it.

Finally, adopting an RMA force structure forces opponents to adopt unconventional attack strategies. After all, the object of acquiring an RMA force is to make major conventional war too risky for an opponent - that is the essence of deterrence. If the opponent realizes that attacking an RMA force would warrant certain death, they will naturally examine alternatives to conventional warfare. Indeed, they have no choice but to search for asymmetry – something they may not have done had some margin for success been left in the conventional war calculation.

September 11, 2001, demonstrates that the world's only superpower with the most powerful and sophisticated military force in history was catastrophically vulnerable to a strategically devastating attack mounted by a small unsophisticated group of individuals using a garden variety means of public transport. One of the reasons the attack was so shocking was because the RMA force helped to create a false sense of invincibility – a Maginot Line of the mind - an attack on US soil was unthinkable in part because America was so militarily untouchable.

Clausewitz understood the Maginot Line mentality. He wrote "if you entrench yourself behind strong fortifications, you compel the enemy to seek a solution elsewhere." The promise of the RMA for changing the means of conventional warfare seduces strategic planners with a false sense of invincibility. What September 11 demonstrates beyond all doubt is that there is a more important question than seeking ways to refine the means of war – which typifies the RMA debate. September 11 begs strategists to reconsider the ends served by the use of force. That question opens the way for debate about transforming the state's security apparatus to meet the dilemmas of the new era. As will be shown below, that unanswered question is of paramount importance to Australia.

All of this is not to argue against the adoption of an RMA force structure. The genie is out of the bottle – those that can afford it will not want to be without it – its possession can only be countered by a like force (which would be the conventional equivalent to mutually assured destruction) or unconventional strategies. While wealthy states will choose the former path, by necessity everyone else will choose the latter. As the myriad divisions between rich and poor in the international system grow, so too will their mutually antagonistic approaches to warfare. Wealthy states with an RMA based-force will continue to feel a false sense of security while poor states and especially non state actors will be forced to seek unconventional means to attack the rich - thereby asserting asymmetrical advantages against the conventional 'strengths' of an RMA force. If rich states do not apply the same level of intellectual rigour, policy priority, sense of urgency and financial support, to deterring and preventing terrorism as they do to building RMA forces they will be on a collision course with disaster. September 11 – the *antithesis* of the Gulf War - is the real harbinger of warfare in the 21st Century.²⁹

²⁹ At least between rich and poor. As argued above, war among the poor will continue its dreaded futile course and war among the rich has been largely rendered obsolete by the RMA – and it should be added by advanced forms of international relations (but that is another much longer story).

AUSTRALIAN DEFENCE POLICY, THE RMA, AND UNCONVENTIONAL WAR

Australian defence policy is paradoxical. It is deliberately designed to protect Australia against what it states is the “least likely military contingency Australia might face” – an attack on the northern coast.³⁰ At the same time it ignores what may already be the greatest (and most credible) threat to the country - terrorism. Australia's defence policy is solely concerned with defending against major conventional attacks against the northern coastline.³¹ Yet there is unanimous agreement that an attack on Australia is the **least likely threat** that Australia might face. Even the government's own White Paper states clearly that the key contingency Australia's defence policy is designed to counter is the one “least likely” to eventuate.³² With respect to an invasion of Australia the 2000 White Paper acknowledges that “no country has either the intent or the ability to undertake such a massive task”.³³ A major attack on Australia is judged as a “remote possibility”, and minor attacks “possible” but “most unlikely”.³⁴ No other contingencies are canvassed. The defence white paper only gives serious attention to a set of contingencies that it itself judges as unlikely and pays no attention to any other contingency.

In the only significant departure from past policy the 2000 White Paper acknowledges that Australia “has been engaged in only one conventional conflict since the Vietnam War”³⁵ (the 1991 Gulf War) and goes on to make a case for a much stronger emphasis on Operations Other Than War (OOTW) following Australia's leadership in resolving the East Timor crisis and participation in countless OOTW operations in the 1990s:

military operations other than conventional war are becoming more common. Since the end of the Cold War, there has been a worldwide upsurge in intra-state conflicts. These disputes have placed new demands on the armed forces of many countries, including for humanitarian relief, evacuations, peacekeeping and peace-enforcement. **The Government believes this is an important and lasting trend with significant implications for our Defence Force.** Over the next 10 years the ADF will continue to undertake a range of operations other than conventional war, both in our region and beyond. Many of these operations will be at the lower end of the spectrum, but often they will be more demanding. The boundary between a benign situation and open conflict can become blurred.³⁶

The White Paper argues, not unreasonably, that these new OOTW demands can be undertaken within the existing force structure designed for major conventional war aimed at the Northern coast.

While the White Paper pays lip service to unconventional threats (other than OOTW) only once³⁷ it does not outline any strategy or make any policy prescriptions regarding unconventional war. For example, when it is noted at all terrorism is mentioned right up there with “illegal fishing... and quarantine infringement”³⁸ in a passing mention of a

³⁰ *Defence 2000*, Department of Defence, Canberra, AGPS, 2000, p. 23

³¹ Geography suggests the Northern orientation.

³² *Defence 2000*, Department of Defence, Canberra, AGPS, 2000, p. 23

³³ *Ibid.*

³⁴ *Ibid.*

³⁵ *Ibid.*, p. 10

³⁶ *Ibid.*, p. viii, emphasis added.

³⁷ This comment is made in the introduction and repeated once more in the body of the text.

³⁸ *Ibid.*

laundry list of “new security” issues that also included “piracy... cyber attack, organised crime, illegal immigration, .. [and] the drug trade”.³⁹ Indeed the word terrorism is mentioned only three times in the whole document.

The Defence 2000 White Paper was a classic case of preparing for the last war. Decades of experience since the Vietnam War could not shift Australian defence policy away from its fixation on a threat that defence officials themselves said would never come. It would take a decade of OOTW operations around the world⁴⁰ and leadership of an international peace-making force in East Timor in the 1990s for OOTW to even rate a mention in the 2000 White Paper. The reality is that Australia's newest principle national security policy document, the *Defence 2000 White Paper*, completely fails to address the substantial threats that have arisen against Australia and its interests in recent months. It is not the first time a costly and high-profile national security pronouncement has been rendered virtually redundant on arrival. Remember *Australia's Strategic Policy* (1997)? That was the report issued a few months before the Asian Financial Crisis that warned that Asian states were becoming so economically powerful that it was only a matter of time before they would flex their military muscle.

Is this criticism 20/20 hindsight in light of September 11? Not in the slightest. Australia had considerable prior warning that the nature of terrorism was changing⁴¹ and becoming more prevalent, from sources abroad and at home. The late 1980s and 1990s witness a dramatic upsurge in terrorist incidents outside traditional areas of the Middle East, Northern Ireland, Columbia and the Basque region: the Pan Am-Lockerbite tragedy, the Unabomber, the Khobar Towers attack, the Oklahoma bombing, the Tokyo Sarin nerve gas attack, the East African Embassy bombings, the first World Trade centre attack, and the attack on the USS Cole. A Presidential Commission was established in the US to assess the threats against critical infrastructures arising from the trend in terrorism towards large-scale aggressive attacks on US targets. As the discussion of Australia strategic policy above shows, no equivalent effort was made in Australia.

In 1997 when defence was scaremongering about the Tiger economies of Asia just before they collapsed in a heap, the first ever risk assessment was conducted on Australia's critical infrastructures.⁴² That assessment balanced very significant vulnerabilities in Australia's financial, telecommunication, energy distribution, and air transport networks, against the low level of threat against them. Terrorism was judged to be the most likely motivation behind any such attack. *The paper even noted that a 767 might be used in a terrorist attack against a major public building.*⁴³

In subsequent reports on the same subject to the federal parliament,⁴⁴ in academic⁴⁵ and popular⁴⁶ journals, the point was raised that the Department of Defence's single

³⁹ Ibid.

⁴⁰ Namibia, Somalia, Western Sahara and Rwanda in Africa; the Gulf and elsewhere in the Middle East; and Cambodia, the Solomon Islands, Papua New Guinea (Bougainville), Indonesia (drought relief in Irian Jaya) and East Timor in our nearer region.

⁴¹ Since the end of the Cold war terrorism was becoming more violent, its political basis shifting from making statements to inflicting maximum damage, it was becoming more indiscriminate and was using new tools such as Sarin gas.

⁴² Cobb, A.C., 1997, "Australia's Vulnerability to Information Attack: Towards a National Information Policy", Strategic and Defence Studies Centre, ANU, Working Paper, No.306.

⁴³ Ibid., p. 24

⁴⁴ Cobb, A.C., 1998, *Thinking the Unthinkable: Australian Vulnerabilities to High Tech Risks*, Parliamentary Report #18.

⁴⁵ Cobb, A.C., 1999, "Electronic Gallipoli?", *Australian Journal of International Affairs*, 53:2

⁴⁶ Cobb, A.C., 1999, "Electronic Gallipoli?", *Quadrant*, April.

minded focus on the RMA as a means to improve Australia's major conventional warfare capabilities was missing the point – Australia had to prepare for asymmetric contingencies because having an RMA capable defence force would limit an opponents options to unconventional warfare. Perhaps like the OOTW case, Australia will need to experience a decade of terrorist assaults before asymmetric warfare is seriously addressed by Australian strategic policy?

This is surprising because the government had allocated significant resources to research and analysis of the RMA by the department of defence. Indeed, a new division was established in Australian Defence Headquarters, the Office of the RMA, headed by a one-star general and charged with analysing the impact the RMA would have on Australia's strategic circumstances. Predictably the organisation concentrated on the impact new advanced military technologies would have on the conventional warfighting capabilities of the current and future order of battle without any consideration for the broader organisational, military, strategic, or political implications of the RMA.

Fully imported from America with scant indigenous intellectual development, the RMA was rebadged locally as "the knowledge edge" and immediately took pride of place in policy pronouncements⁴⁷. In the aforementioned 1997 *Strategic Policy* document the knowledge edge was defined as "the effective exploitation of information technologies to allow us to use our relatively small force to maximum effectiveness".⁴⁸ It is indicative of the depth of Australian strategic thinking that common sense was thus raised to the level of patriotic slogan.

Notwithstanding the work of the Office of the RMA since its establishment in 1997, beyond dropping the knowledge edge slogan for the RMA acronym, nothing has changed. The whole concept of transformation currently gripping the US Defence department seems to have completely escaped Australian thinking. The RMA is still taken to be synonymous with advanced military technology in ADF policy pronouncements. The Defence 2000 White Paper devoted an incredible seven pages to the discussion of the RMA – by far the longest section on any single topic in the White Paper. By comparison, the Knowledge Edge, which was the only 'new' policy priority of the 1997 report, only managed four pages in considerably larger font.⁴⁹ In its 2000 iteration, the discussion of the RMA comprised an entire chapter tellingly entitled "science and technology".⁵⁰

Australian appreciation of the RMA has in fact been more narrow than the RMA label would suggest. ADF investigations into the RMA have in fact been restricted to the Revolution in Military Technology (RMT) rather than looking at the full set of strategic consequences attending all military affairs implied by the RMA label.⁵¹ The ADF is far from

⁴⁷ The Knowledge Edge was the key new idea introduced by the 1997 mini-White paper entitled *Australia's Strategic Policy*. Issued just months before the Asian Financial Crisis, this document argued that the Asian economies were growing so large and powerful that it was only matter of time before their greatly enlarged internal revenues would be applied to defence acquisitions which in turn would enable them to threaten Australia and its interests.

⁴⁸ Ibid, p. 56

⁴⁹ *Australia's Strategic Policy* Department of Defence, Canberra, AGPS, 1997, pp.56-60.

⁵⁰ *Defence 2000*, Department of Defence, Canberra, AGPS, 2000, Chapter 10, pp.107-113.

⁵¹ While this project has questioned the veracity and utility of the term "RMA", it would not be very worthwhile to go into a deep analysis of definitions. The important point is that it is a widely used term and is a useful shorthand for the complex set of issues at stake. For that reason and with the caveats on its use in the main text (regarding whether it is evolutionary or revolutionary which is really irrelevant compared to the impact the

unique in focusing on the “exciting” and easily measured new technologies over the more complex and subjective implications of the optimum use of those technologies.⁵² Indeed this project seeks to address and emphasize the latter, largely unexplored implications of the RMA – these implications form the basis of the transformation question.

Military organizations always seem prone to get caught in a simple but beguiling trap – the confusion of means and ends.⁵³ To examine only the technology, the tools of war, at the expense of the purpose(s) for which they are to be employed is to forget Clausewitz. The big questions will always be about the core political objectives being sought and whether they can be attained by the use of force.⁵⁴ One of the reasons why means are more frequently analyzed than ends is because ends are so subjective, contingent, and in constant flux. Ignoring the ends question and concentrating wholly on analysis of means (because it is easier), has the potential to create a strategic “blindspot” through which a creative opponent could attack.

The big questions of Australia's strategic policy are limited to three very similar contingencies relating to direct conventional attacks on Australia that have an infinitesimal probability of occurring. The contingencies most likely to threaten Australia and its interests are ignored. At the same time considerable efforts have been made to analyze and position new military technologies in the service of the most unlikely ends. No questions have been asked about alternative contingencies other than direct attack on Australia. No questions have been asked whether the policies or the mechanisms driving the military and broader security apparatus of state need to be transformed to address - what no doubt appear to some as – the new security threats that have recently emerged on the international scene.

Transformation is about addressing the big questions of Australia's security. Transformation is about the ends the country is seeking to achieve through its security policies, not what new kit needs to be bought in the next budget round. Transformation is about analyzing real security issues rather than hiding behind fictional contingencies, it is about asking whether the policies, organization, and methods of the security apparatus of state are adequately prepared to engage unprecedented threats to Australia's way of life, it is about so much more than investigating the adequacy of Australia's military technology.⁵⁵

A STRATEGIC BLINDSPOT - THE TRANSFORMATION CHALLENGE

A strategic blindspot currently exists in Australian strategic policy. The stated mission of the ADF is to “defend Australia and its interests”. But the strategic policy that supports this aim is focused on defending the northern coastline from conventional military attack, not defending Australia as a whole. To defend Australia, and not just its coastline, requires a policy and strategy for deterring and countering asymmetric and unconventional attacks against population centers, national icons, and critical infrastructures. No such policy exists. Notwithstanding the fact that in every major wargame run by the Office of the RMA, the first shots of any “Red Team” attack on Australia or its interests have

terms use has had in the orthodox discourse) the term RMA will continue to be used to refer to a very high-tech and capable conventional military force.

⁵² As this examination has made clear, even the ADFs narrow investigation of the RMT has focused on one contingency – major conventional war – so in a sense the ADF effort is doubly narrow.

⁵³ The author has been a Director of Strategic Policy in charge of investigating the future of warfare in Australian Defence HQ. This comment is borne of years of observation of, and learning about, military hierarchies.

⁵⁴ This applies to both the offensive or defensive context.

⁵⁵ Although the state of the ADFs military technology is an important sub-question in the transformation matrix.

concentrated on asymmetric targets, such contingencies remain excluded from defence policy. Even the spectacular example of September 11 has not persuaded Australian planners that security does not stop at the water's edge.

In fact Australia's security policies are divided along the coastline. External security is the preserve of the Department of Defence, internal security is shared among countless competing state and federal agencies. There are a series of ad hoc arrangements and bureaucratic inter-departmental committees governing various elements of internal security, but they are too Byzantine to describe here.⁵⁶ Consequently internal security issues do not figure in Australia's strategic policy or plans. Indeed there is no holistic national security coordination either internally or between internal agencies and defence.

Each time a crisis occurs, a new ad hoc interdepartmental committee is formed. New people, new relationships, new methods, new chains of command, new intelligence sources, and new communication systems, all need to be embedded among competing agencies each time a crisis occurs. Being a relatively small bureaucracy Australia can probably adapt better than most, but serious failures do occur at quite rudimentary levels within the existing set of arrangements.

The new Chief of the Defence Force, General Peter Cosgrove, AC MC, has publicly admitted that "plainly confused communications" during the course of *Operation Relex* (to prevent the arrival of illegal people smuggling vessels in Australia) contributed to misunderstandings throughout the national security establishment (including the Government) concerning two maritime incidents. In one case, the failure of interagency cooperation led to an election scandal and a major Parliamentary enquiry, and in the other case, the role of the ADF in failing to prevent the loss of hundreds of lives at sea was questioned.⁵⁷

Expanding his comments on the failure of existing national security coordination arrangements General Cosgrove stated that

We've got to make [interdepartmental cooperation] more robust... We've got to do better at managing the streams of communication that respond to incidents... We've got to do better with our emails. Got to somehow know where they're going and what accountability and reliability they have. Got to do better with our photographic evidence, and we've got ... to ensure that we control and know about photographic evidence rather better.⁵⁸

This is of course a cogent argument for the establishment of a national security council (NSC) – a permanent body staffed by senior officers - charged with synchronizing

⁵⁶ Such as the Standing Advisory Committee on Commonwealth/State Co-operation for Protection Against Violence (SAC-PAV).

⁵⁷ Two examples have recently come to receive widespread public attention. Both involve the recent spate of illegal people smuggling vessels attempting to land in Australia. In one case, refugees were accused of threatening to throw their children overboard to gain attention from the Navy, causing a political furor when partial information about the incident was announced to the press in an election campaign (SIEV-4 and the "Children Overboard Affair"). In the other case, a similar vessel sank with the loss of 353 lives. In addition to confusion as to whether the ADF was surveilling the craft and therefore may have been in a position to mount a rescue, the exact location of the vessel when it sank is in dispute (the "SIEV-X incident"). SIEV stands for "Suspected Illegal Entry Vessel".

⁵⁸ Address to the National Press Club, 30 July 2002.

national security operational and policy coordination across government.⁵⁹ An Australian NSC would remove the artificial and dangerous division between external and internal security, thereby going a long way to addressing the strategic blindspot presented by asymmetric warfare.

Australia currently has a National Security Committee of Cabinet but no national security policy. The artificial divide between internal and external security serves no useful purpose beyond separating bureaucratic functions, nor does it accord with the reality of the contemporary security situation as the above example demonstrated beyond doubt. On the contrary, *fusion* not separation is the key to the transformation required to be better able to cope with the challenges of the 21st Century. Unless transformation is genuinely adopted and ends are prioritized over means, many of the pitfalls associated with relying on the development of an RMA force (outlined above) will be visited on Australia.

TRANSFORMING ORGANIZATIONS

INTERNAL SECURITY

With fusion in mind it is worth briefly noting here that for the NSC concept to really flourish there needs to be a sweeping consolidation of domestic security efforts. While Australia's law enforcement, security and intelligence personnel do a superb job, they are not aided by the fact that there is no single agency responsible for coordinating their individual tasks towards a common end. Bureaucratic rivalries, secrecy, compartmentalization, conflicting information and different agendas often conspire to inhibit the process.

The Australia Security and Intelligence Organization (ASIO) should be amalgamated with the following agencies into a single new national intelligence, security and law enforcement agency: Australian Federal Police (AFP), the National Crime Authority (NCA), the Protective Security Coordination Centre (PSCC), the Australian Protective Service (APS), the Australian Bureau of Criminal Intelligence (ABCI), the Australian Transaction Reports and Analysis Centre (AUSTRAC), the Commonwealth Law Enforcement Board (CLEB), Crimtrack, the Critical Infrastructure Protection Group (CIPG), Coastwatch, Immigration, and Customs.

The new agency, which might be entitled the Australian Security Agency (ASA), would bring all the complimentary security, intelligence and law enforcement functions together under one roof, with one chain of command, one source of funding, and one sole purpose – to eliminate threats to national security and uphold the law.

The Prime Minister has already noted that no additional funds will be spent on ASIO, the AFP or others, so if the existing agencies plan to meet what will surely be a huge increase in their operational tempo due to the increased terrorist threat, the money will have to come from somewhere. Amalgamation is the key. Amalgamation would force all these services to eat out of the same rice bowl and thereby abolish one important source of tension between them – competition for scarce public funds. Moreover, the elimination of nine out of ten capital and administrative cost centers would generate a very significant amount of money to be spent on enhancing operational capacity.

⁵⁹ The creation of an Australian NSC was not the new Defence Chief's objective but it flows from the problems he identified and the solutions he suggested.

For example, in FY2001-2002 agency funding will be as follows: ASIO (\$70m), AFP (\$396.8m), NCA (\$51.9m), PSCC (\$21.9m est.), APS (\$90.5m est.), AUSTRAC (\$11.251m), CRIMTRAC (\$16m est), CPIG (\$2m). Assuming for argument's sake that administration costs currently average 20%, the total administration bill would be \$132m. If 30% of that figure was allocated to transfer and establishment costs of the new organization that would leave \$88m to enhance the operational budget. While these assumptions are purely arbitrary, they provide a crude measure of the potential for savings that could be derived from a well-implemented amalgamation program.

More importantly, the ASA would be a phenomenally potent weapon in the fight against crime, drug trafficking and terrorism. The complex interconnections between the dispersed and amorphous enemies of the state would no longer be hidden in the cracks between myriad competing government departments and agencies. The old saw that the state is always one step behind the bad guys would be seriously challenged by the creation of the ASA. The nation's security mandarins will fiercely resist losing their empires, but surely that is a small price to pay for substantially enhancing national security at this time of significantly increased threat.

The consolidation of all of these disparate efforts into the ASA would also facilitate real cooperation at the national level by streamlining the proposed NSC into a very tight group of just a handful of key agencies. These organizational reforms will not eliminate the threat of asymmetric attack against Australia. But they will unify the national security effort both in terms of commonality of systems, procedures and operations, as well as the way policymakers think about the new and complex challenges to Australia's security.

EXTERNAL SECURITY

The transformation of Australia's security policies would be incomplete if it stopped short of reform of the dated and ineffectual defence hierarchy. When defence was facing its greatest challenge since Vietnam (ie. leading INTERFET) the existing command arrangements were abandoned. Likewise the unnecessarily complex command structure currently governing the ADF probably contributed to the mixed messages and confusion referred to by General Cosgrove in his above quoted statement on Operation Relex.

By far the largest federal bureaucracy with the biggest budget (until very recently), Defence had slipped into a peacetime comfort zone in the wake of the tumultuous war in Vietnam. As the din of combat receded new fronts emerged within the committee rooms of Canberra. In Australia the department of defence is given a lump sum budget by "Parliament" to distribute as the Defence Minister and his/her military advisers (the service chiefs) see fit. Without a real war to worry about battle over the allocation of the global defence budget was engaged with vigor. The legacy of that system remains today within the organizational structure of the high command. Notwithstanding the fact that the operational tempo of the ADF is today higher than at any time since WWII, those in charge of administration of the three services are senior in rank, power, and prestige, to those in charge of the conduct of operations. That anomalous situation, with implications too numerous to note here, reflects the priorities of an earlier peacetime orientation that is a luxury in the current environment.

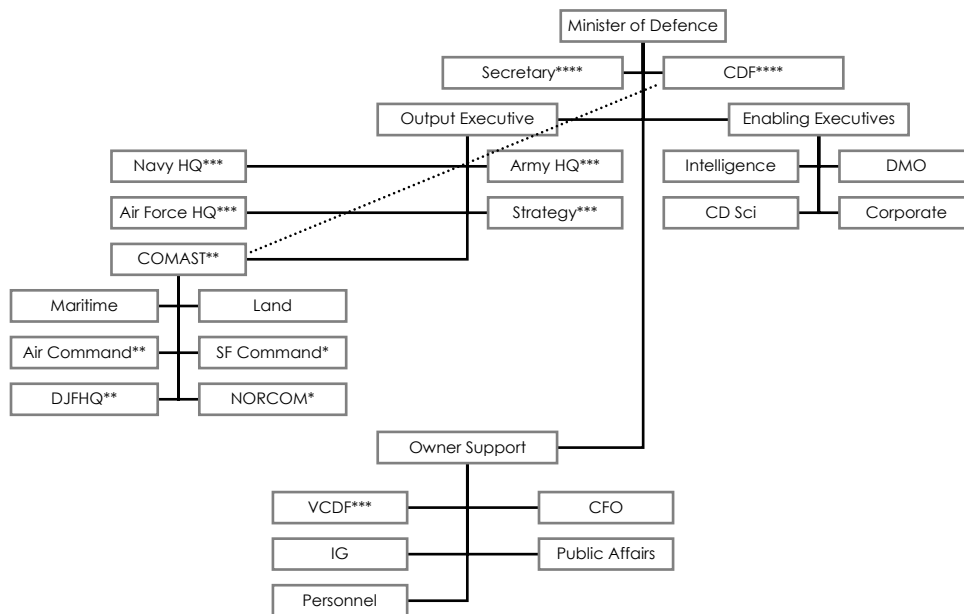
That however is not the extent of the problem. With extended peace, the service chiefs had become unaccustomed to acute political interference. When Ministerial interest intensified in military operations, in parallel with the growing demands on the force in the

1990s, it was decided to separate the operational command headquarters from Defence HQ in Canberra and disperse the former in different locations. Notwithstanding already advanced development of IT and communication technologies, that decision was taken in a vain attempt to reduce political interference in military operations. The legacy of that system is also still with the ADF today.

With only 50,000 personnel the ADF has two separate headquarter systems - one for administration in Canberra and one for warfighting dispersed in several different locations all around the country. While technology vastly enhances communication there is a reason why people still meet one on one. The government has announced co-location of the combat commanders in Canberra⁶⁰ but it still has not addressed the extraordinary duplication inherent in having two sets of headquarters for a force as small as the ADF.

Like the unnecessarily complex internal security apparatus, the higher defence arrangements of the ADF are in desperate need of rationalization. The diagram below illustrates the duel HQ structure in current use, its complexity speaks for itself. Suffice to note that the two star warfighters answer to the three star "Commander Australian Theatre" who is totally separate from the three star service chiefs. During the Timor operation this command structure was abandoned in favor of the Deployed Joint Force Commander (General Cosgrove) answering direct to CDF.

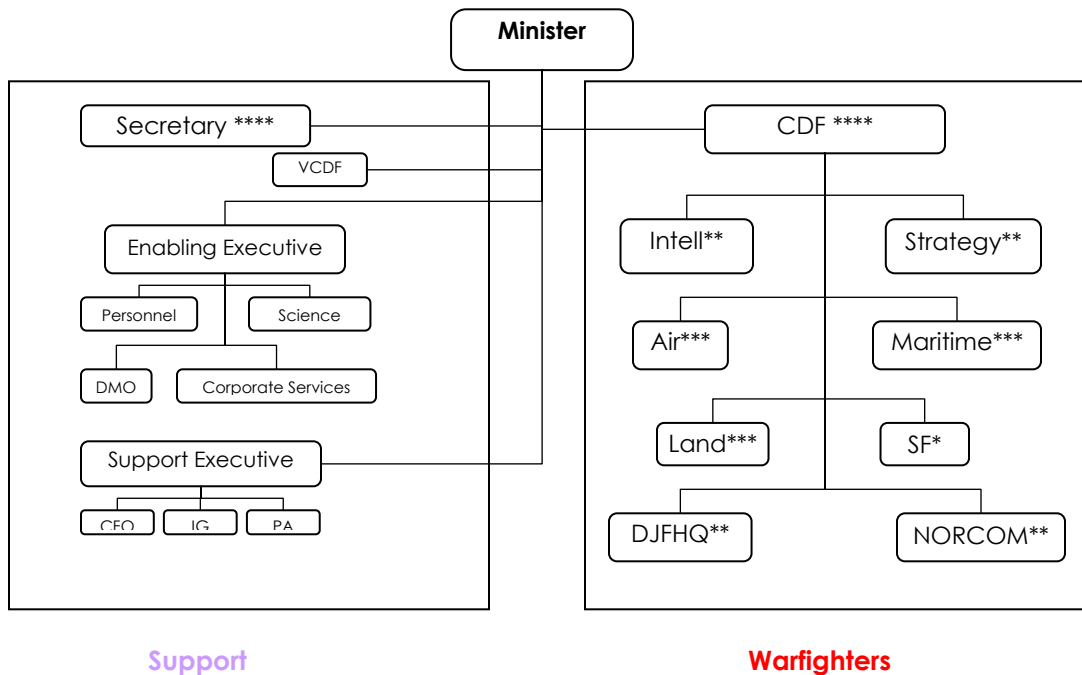
ADF Higher Organization 2002



⁶⁰ Which most insiders agree with take triple the time allocated for it to happen.

The ADF needs a clear and easily understood chain of command that all parts of the system can rely on in times of need. In the 'enhanced organization' model presented below, the Chief of the Defence Force is the ultimate military authority and as such is in overall charge of the ADF.⁶¹ Where circumstances require the deployment of a Joint Force HQ, the DJFCOM will have operational control of all deployed forces and answer to the CDF. In all other circumstances and at all other times the CDF will be in direct charge of operations. This arrangement not only reflects what happened in the case of the Timor operation, but reflects the commonsense fact that the most senior and experienced military commander will take charge in the event of a national crisis.

ADF Higher Organization: Transformation Model



Rather than being glorified postmasters, as they have sometimes been labeled in their current role, the service Chiefs become the overall commanders of their respective forces and answer to the CDF (or DJFCOM if applicable) in the enhanced model. The Chiefs will be directly supported by their deputies who will be charged with the substantive and important responsibility of administering and supporting their service both in the area of operations and support area. Thus the Chiefs can maintain oversight of the administration of their service while they get on with the more pressing task of command.

⁶¹ While the last sentence may appear redundant it obviously needs reinforcing because in the current organizational model the head of defence force operations is not the CDF but a relatively junior two star (COMAST).

Strategy and intelligence are brought back from the fringes of the organization into the direct service of the fighting forces and their commanders. Because strategy, plans, and intelligence will be provided direct to the CDF and the Chiefs, it will be possible to disband both the Strategic Command Division and the COMAST staff which in any event used to do largely duplicative work. The Vice Chief of the Defence Force (VCDF) is returned to acting in direct support of CDF who may delegate tasks to VCDF as s/he sees fit (this could include the functions of Commander Australian Theatre). The remaining enabling and supporting executives do not change from their existing place in the current organization. The Secretary of Defence remains an equal to the CDF and will take up CDFs administrative slack especially during sustained or intensive operations.

Joint force operations are the defining military concept of the 21st Century. No matter how brilliant IT might become, joint force operations need to be organized and executed by a coherent, focused, well resourced team of experts who are in a position to develop trusting relationships. It is simply unrealistic to expect the ADF will become an efficient and effective joint force with staff located at 9 different HQs all isolated from one another.⁶² While there may be some strategic and C³I redundancy in separate HQs located all over the country side, in reality there would be very little additional work to attack all HQs at the same time.⁶³

If a complex command structure is not needed, why have one? The ADF should use its size to its advantage. It should abandon ponderous bureaucracy in favor of a sleek organizational model designed not for top-heavy sinecures and ritual turf battles but for flexible, adaptable, fast and furious joint operations. History has shown that complexity in command is counter productive to efficient operations. It is not necessary to look too far back in history for an example. If recent operational experience in Timor demanded that the 'official' command structure be junked in favor of a simplified model, shouldn't that valuable operational experience tell us something?

Because of its size and sophistication the ADF is uniquely suited to transformation into a truly joint force. While many will try, few of the world's armed forces will be able to fuse their command and control structures to create a truly joint, coherent and unified fighting force. However, combined with the right policy, doctrine, and organization, that aspiration should be within reach of such a small highly educated, trained and equipped combat force like the ADF.

TRANSFORMING IDEOLOGIES

Having rationalized internal and external security arrangements and instituted a streamlined national security council to administer and coordinate the whole-of-government national security effort, the discussion now turns to the creation of a comprehensive strategic policy to service the new security institutions.

⁶² Navy, Army, Air Force HQs, plus Commander Australian Theatre, Air Command, Land Command, Maritime Command, Special Forces Command, and Northern Command, .

⁶³ For example, with the exception of SFCOM and NORCOM they are all dependant on the same public utilities (power and communications services).

Australia does not have a national security policy. The formal thinking, organization, administration, and execution of security efforts is divided between inside and outside, and thereafter among myriad departments and agencies of state. Among all the endless divisions within divisions there is no coordinating mechanism, no clear authority, no sum of the parts that the parts have to coherently answer to. The National Security Committee of Cabinet sits atop the various competing departments and agencies and receives individual submissions from them as they are filtered through the Secretary's Committee (comprised of the Heads of each Department involved – Cabinet Secretary, Defence, Foreign, Treasury, and Attorney Generals) but there is no formal linkage prior to this level of government, except perhaps an ad hoc interdepartmental committee and the drawbacks to that system have already been detailed above.

Without a *national* security mechanism there is no reason why there should be a *national* security doctrine. Like defence, most of the various departments and agencies involved issue their own particular take on their particular area of responsibility. There is no facility for bringing all these assessments and policy statements together into a coherent whole. Consequently there is no national security doctrine or policy, just a series of agency pronouncements from customs and immigration to defence and foreign affairs.⁶⁴ If thinking about security is divided and compartmentalized so will be the resulting national effort.

If the argument for transforming Australia's security organizations is accepted, what could be done to create a policy to meet the requirements of the transformed security apparatus? Currently external security policy is derived from assessing a range of external conventional military capabilities. This method provides a detached framework within which to assess whether the ADF is ready to repel one or a combination of extant regional military capabilities. It is a clever approach in that it avoids attributing undesirable intent to neighbors and thus avoids creating a self-fulfilling prophesy of coming war. Of course the problem with this methodology is that it does not concern itself with anything other than a strict technical military capability analysis.

Political, economic, domestic, social, environmental and other issues that might touch on the strategic picture are excluded. The appreciation of the implications for Australia are limited to narrow external military force structure analysis. So hypothetically, while it is established that country "X" cannot possibly attack Australia or its interests with its military forces, no other consideration is given to "X". Clearly this is far too limited a conception for making policy but there are alternatives.

The new NSC staff should establish a small cell of analysts drawn from a range of relevant agencies and charged with devising a series of savage, unrelenting and merciless attacks against Australia and its interests. Every identifiable Australian vulnerability should be made a target. Wherever a political, economic, or strategic weakness can be found at home or abroad, it should be vigorously prosecuted by every available means – kinetic, cyber, nuclear, chemical, biological, or psychological.

The NSC cell should be given complete oversight of all intelligence relating to finding, probing and analyzing Australian vulnerabilities. The comprehensive vulnerability map the NSC cell develops should then form the basis of as radical an attack plan as is

⁶⁴ Indeed it is quite telling that the vast majority of the agencies concerned do not issue any public documents at all beyond the annual reporting mechanisms demanded by law. To many of them their security functions, if they receive much priority at all, are hidden beyond the scope of the individuals organizations primary roles and responsibilities.

unimaginable - to exploit the vulnerabilities discovered by the NSC team. Wildcard events – unexpected crises that arise with no warning – should be incorporated into the scheme to assist in replicating unanticipated events. The resulting series of attack plans will likely provide a better sense of future strategic events (in the absence of an identifiable enemy) than current strategic methodology permits.

In the first instance this new methodology should be developed in isolation from existing strategic planning mechanisms and then directed against the latter in a series of simulated attacks. The result will not only uncover problems within stated policy it should also demonstrate the weaknesses inherent in existing security coordination, command and control mechanisms across the whole of government. The lessons learned from this process should act as a guide to the formulation of both a new comprehensive national security policy as well as the best mechanisms to service the policy requirement. The NSC will set and lead the national security effort and receive whatever input necessary from the relevant agencies as required to ensure Australia's security. It is a new approach and it will have its critics. But in the light of recent events should Australia leave the initiative to those who seek to do us harm?⁶⁵

Should Australia adopt this new methodology for creating a national security policy, as opposed to maintaining existing defence policy, it would merely be emulating the very latest strategic methodology to be adopted by Australia's greatest alliance partner, the United States. In the May/June 2002 edition of *Foreign Affairs*, the US Secretary of Defence, Donald Rumsfeld, stated that the US is itself abandoning its old "threat-based" approach in favor of a "capabilities-based" method of constructing strategic policy.⁶⁶ Secretary Rumsfeld does not refer here to the kind of capabilities based approach practiced by the ADF for the past decade or more. Rather the Secretary proposed a method that "focuses less on who might threaten us, or where, and more on how we might be threatened and what is needed to deter and defence against such threats".⁶⁷

Secretary Rumsfeld invokes Frederick the Great's dictum from the latter's *General Principles of War*, namely, "what design would I be forming if I were the enemy"? and concludes that US forces and policy must be fashioned "as necessary to deter and defeat that threat".⁶⁸ That, in its purest form, is precisely the scheme that this project would have guide the creation of a comprehensive national security policy for Australia.⁶⁹

TRANSFORMING THE ORDER OF BATTLE

Finally, having addressed the ends of the use of force, the policy framework for achieving those ends, and the new organizational structures to serve them, consideration must be given to the means of war - the order of battle (ORBAT) itself. One of the central arguments of this project is that Australian strategic planners, like many others, have concentrated their RMA investigations on enhancing the means of war rather than examining the broader political, economic, and strategic implications of new advanced military systems. It might come as a surprise therefore to discover that even in this area of special expertise and concentrated effort major mistakes have been made

⁶⁵ Elements of this section have been drawn from Cobb, A.C., "Attacking our defence strategy", *Australian Financial Review* 25/10/2001, p.63

⁶⁶ Rumsfeld, D., "Transforming the Military", *Foreign Affairs*, May/June, 2002, p.24.

⁶⁷ Ibid, p.24.

⁶⁸ Ibid, p.25.

⁶⁹ The author would like to state for the record that he first proposed such a scheme for Australia in October 2002 as noted at footnote #65 above.

leading to one final ironic paradox of Australian security – exposure to the threat we think will never come.

There are five critical problems facing the ADFs order of battle. First, virtually all major combat platforms in all three services will reach the end of their useful lives on or about 2015 – the problem of block obsolescence. Second, the jump in operational tempo (optempo) during the 1990s was unanticipated by planners. Therefore, new and unforeseen pressures have been placed on the ADF's people, platforms, and purse. Consequently, personnel retention rates have decreased, platform maintenance costs have soared while equipment longevity (already a hypersensitive issue) has markedly declined, and funding priorities have had to be radically altered. Third, with block obsolescence looming and anticipated to cost between \$88-\$110bn, there are insufficient funds to replace the current ORBAT. In fact there are insufficient funds to mount operations with the existing force, as demonstrated by frequent raids on the capital budget to fund operations since 1999. Fourth, notwithstanding the high priority placed on the RMA as it relates to using technology to improve the force, there has been a critical disconnect between that effort and some of the key capability acquisitions of the past decade. That disconnect has added to a decline in the ADFs deterrent power. Finally, the Asia Pacific is the world's fastest growing arms market. Regional conventional warfare capabilities are steadily improving at a time when the security situation is rapidly deteriorating.

Ironically, these combined pressures could culminate in delaying the vitally needed transformation of the ORBAT. Because having an RMA force is so critical to deterrence against conventional attack, any delay could result in a further diminution of Australia's already declining strategic deterrent. That development would in turn present a strategic vulnerability that (in a crisis) could invite the very attack on Australia that planners currently agree is unlikely.⁷⁰ This is perhaps the ultimate paradox in Australia's security circumstances. In other words, by failing to acquire sufficient RMA capabilities because of past acquisition mistakes, a crisis in funding, general block obsolescence and additional pressures on the ORBAT due to the unanticipated optempo, the ADF faces the prospect of losing its current preponderance of deterrent power vis a vis the rest of the region. A deterioration in the ADFs strategic deterrent at a time of heightened regional tensions could, in a major crisis, tempt an opponent to conduct aggressive conventional military operations against Australian interests that they otherwise would have been deterred from mounting had the ADF successfully acquired an RMA capable force structure as originally planned. In fact, the absence of a deterrent could *stimulate* an escalation of an otherwise manageable dispute.⁷¹

There is no guarantee that a serious crisis involving Australia will not arise. The end of the Cold War, the collapse of the Soviet empire, the Asian Financial Crisis, September 11, the collapse of Enron – all of these events went unpredicted. Rapidly changing political, economic and strategic circumstances create surprises. Only those who believe in Santa Claus can imagine the international system is capable of delivering pleasant surprises. For the rest, the age of surprises is a time to be particularly vigilant.

⁷⁰ Regarding an attack on Australia or its interests – clearly even under the worst circumstances geography will rule out invasion, but conventional and unconventional strikes against a range of Australian targets would be quite feasible in the absence of a major ADF deterrence capability.

⁷¹ The Timor case is instructive in this regard. What the world didn't see was the behind the scenes manipulation of the ADFs strike assets which left no doubt in the Indonesian mind that any attempt on Australia's comparatively tiny and thus vulnerable land force on the island of Timor would be met with an overwhelming response from the air against Jakarta.

STRIKE

The key capability that sets the ADF apart from other military forces in the region is strike. Australia's long-range stand-off precision strike capability is a potent deterrent to those that might seek to use military force against Australia or its interests. However Australia's strike capabilities are in danger of imminent collapse. By June 2003 the F-111, the key strike platform in the ADF ORBAT, will have spent thirty years in active service.⁷² The F-111 has been out of production for years and the RAAF remains the only operator in the world. Already the fleet has been grounded several times due to unforeseen problems. The recent purchase of new wings from aircraft graveyards in the US is unlikely to forestall all future unforeseen critical events. While the aircraft is programmed to stay in service until 2020 (just short of 50 yrs service), as year follows year there is the ever increasing risk that some unforeseen failure in the airframe or similar critical component will ground the fleet for good, crippling Australia's strategic deterrent overnight.⁷³

Had the F-111s replacement been due to enter operational service in the next few years the risks associated with continually extending the life of the F-111 fleet could probably be managed. The fact that the JSF, the F-111s replacement, is unlikely to be available to Australia for at least ten years or beyond is of grave concern.⁷⁴ So too is the fact that the JSF is still largely a paper aeroplane with years of R&D to be done before the aircraft can enter service.

Australia has joined an international queue to acquire the JSF behind the US, UK, the Netherlands, Denmark, Canada, Italy, Norway and Turkey. It is currently envisaged that as many as 4,500 JSFs will be produced. It is hoped that the first units will be delivered to the US by around 2012. Even if the JSF program meets time and budget milestones, which no other fighter program has ever achieved, it would be hard to imagine the RAAF getting delivery of units before the USAF, a fact recognized by the Chief of the Air Force at the time of the JSF announcement.⁷⁵ Consequently it could be up to a decade or longer before a replacement for the F-111 becomes available.

Given its commitment to adopting RMA technologies, the RAAF prioritized stealth and cost over all other factors as "the technology and capability of the future" in its selection of the JSF to replace both the F-18 and the F-111.⁷⁶ The JSF inherits many of its advanced technologies, including stealth, from the F-22 program (which has been drastically cutback from 648 to 339 aircraft by the US Congress due to cost over-runs). The JSF will not have the radar, supercruise, or long range capabilities of the F-22 but should prove to be a very capable fifth generation air dominance fighter if all goes to plan.

Because advanced fighter programs never go to plan, and mindful of the very considerable work that still needs to be done on making the JSF concept a reality, Lockheed Martin, is seeking to mitigate costs by spreading the risk among as many partners as possible. In addition to the 3000 units currently anticipated to be required by

⁷² The RAAF purchased 18 additional F-111s in the mid 1990s.

⁷³ This is not to mention the extraordinary maintenance costs of keeping the F-111 airworthy. The air force offers no figures but an educated guess would be the figure between half and one billion dollars.

⁷⁴ The first JSF testbed airframe flew in 2000 and a number of flights have been logged to date for different versions of the F-35 but it is years away from being a finished product.

⁷⁵ Air Marshal Angus Houston, Press Conference on JSF decision, 27/06/2002. "It will reach its initial operational capability by about 2012. I think that we want to get in at a reasonably early stage. But, as you would be aware, most programs, aircraft programs, take a while to bed down. So I'd prefer to be going a little bit later on. And we have to have a look at all of that, but the intention always was to replace the FA-18 in the 2012, 2015 timeframe. And the F-111 in the 2015, 2020 timeframe.

⁷⁶ Air Marshal Angus Houston, Press Conference on JSF decision, 27/06/2002.

the US Navy, Marine Corps and Air Force, Lockheed Martin anticipates an additional 1500 units to be sold to partner countries such as Australia. Notwithstanding this innovative strategy there are considerable risks to Australia from participation in the JSF program and in the capability itself.

The JSF is planned to be produced in three variants for conventional (air force), carrier (navy) and vertical landing (marines) operations, and is intended to replace aircraft with as varied missions as the F-18, F-16, A-10, AV-8B Harrier jump-jet, and Tornado fighter. While two airframes have taken to the air, very considerable work still needs to be done on all variants of the aircraft from avionics to weapons systems. In addition, like Australia, more than nine countries are all paying hundreds of millions of dollars to have an opportunity to make their own mark on the JSFs research and development. Either a lot of people are going to get disappointed or the JSF will be an aircraft designed by committee. The chances are that as end users add their own requirements to the project, the aircrafts weight and costs will increase thereby decreasing its performance.⁷⁷ If this were to happen, JSF orders would most likely be cut by Congress sending unit costs skyrocketing.

Current unit costs are set at US\$40m as announced by the Minister for Defence and Chief of Air Force.⁷⁸ If they were to double, which is not beyond the realms of the possible, then that figure comes close to the anticipated late build costs of the F-22. The F-22 is the most advanced fighter in the world, it has a full stealth configuration (on JSF see below), range comparable to the F-111, excellent internal and external payload, fully jetisonable external stores to maintain stealth in theatre, superior radar (spaced apart, a group of F-22s can link their radars forming one large array), and can supercruise (ie. fly supersonically without fuel-killing afterburners). On the ground the F-22 has "greatly improved reliability and maintainability for high sortie-generation rates, including under 20 minutes combat turnaround time" according to *Jane's*.⁷⁹ General maintenance costs are anticipated to be up to 60% less than conventional combat aircraft.⁸⁰ The F-22 has entered initial production and while the average cost is US\$110m, a late build F-22 is estimated to be about US\$85 which is US\$5m more than the likely final unit cost of the JSF. Even if the F-22 was US\$20m more that would be a reasonable margin to pay for the capability that the F-22 would deliver compared to the JSF.

As noted above, aside from cost, stealth was the other key technology the RAAF was seeking in the JSF. At the time of the announcement the Chief of Air Force (CAF) outlined the JSF's many capabilities emphasizing stealth and surmised "so this stealth capability is absolutely crucial to the future".⁸¹ But with a range of only 1200kms, the JSF does not compare to the F-111 (at almost double the range) it is supposed to be replacing. CAF responded to this by noting that with "external tanks and air-to-air refueling, it will have the capability to do what the F-111 does".⁸²

⁷⁷ For a comprehensive summary and detailed analysis of the JSF in the Australian context see Kopp, C., "Hedging the Bet – JSF for the RAAF?", in *Australian Aviation*, August, 2002.

⁷⁸ Joint Press Conference on JSF decision, 27/06/2002.

⁷⁹ *Jane's 'Lockheed Martin (645) F-22 Raptor'*, in *Jane's All the World's Aircraft 1999-00*, 22 July 1999.

⁸⁰ *Jane's 'Lockheed Martin (645) F-22 Raptor'*, in *Jane's All the World's Aircraft 1999-00*, 22 July 1999.

⁸¹ Air Marshal Angus Houston, Press Conference on JSF decision, 27/06/2002.

⁸² Air Marshal Angus Houston, Press Conference on JSF decision, 27/06/2002.



That is a very important caveat. Adding any external stores to the JSF, like fuel tanks, will substantially degrade its stealth characteristics. Recognizing this, CAF responded that the *planned* air to air refueling aircraft would probably minimize the need for the JSF to carry external tanks, and concluded this point by stating “I would **hope** that we wouldn't have to use those tanks”.⁸³ But what if we do? With all due respects to the highly distinguished career and accomplishments of Air Marshal Houston (who, inter alia, was awarded the very rare AFC for an act of heroism) that response is too equivocal on too critical an issue. If the JSF has to carry external tanks which negate its stealth, the RAAF might as well buy the F-15 which has greater range, can carry more ordinance, is currently available, and costs around US\$35m a copy.⁸⁴ The ADF needs tankers no matter which aircraft is acquired, but the key capability separating one fighter over the other contenders (in this case stealth) should not be solely contingent on externals like tanker availability.⁸⁵

It remains to be seen whether the JSF can be developed on time and budget, but history does not suggest much scope for optimism. The F-111 is a case in point. Like the JSF, it was initially designed for both conventional and carrier operations. After years of design and production problems, the navy variant was dropped altogether. With long delays and escalating costs, the US Congress slashed F-111 orders down from several thousand to just 562. Like the recent JSF decision, Australia joined the F-111 project at the very beginning of its design phase in 1963 and had to ride out all the troubles associated with the aircraft until it was delivered years late and drastically over budget in 1973. In the interim F-4 Phantom fighters had to be leased from the USAF to maintain Australia's strike capability. It may very well be the case that the RAAF will have to lease F-15s to fill the gap between early and unexpected retirement of the F-111s and late arrival of the JSFs, at considerably greater cost than currently anticipated.

⁸³ Air Marshal Angus Houston, Press Conference on JSF decision, 27/06/2002, emphasis added.

⁸⁴ Jane's All the World's Aircraft 2000-2001, Online, 15 June 2000.

⁸⁵ It goes without saying that tanker aircraft as desperately needed by the ADF. The reason CAF hesitated in his response was because the fog of war makes any guarantee fragile.

In the context of the RMA the JSF decision is an interesting one in that the benefits of stealth technology seem to have been prioritized above all other considerations except cost. Taking stealth and cost as the two key determinants of the acquisition and adding skepticism regarding the final unit cost of the JSF which is currently in its design-phase should have pointed towards a more serious consideration of the F-22 for a full RMA capability. If cost was the key criterion the F-15 would have been adequate for Australian needs and the likely threat environment. The RAAF runs the risk of paying $\frac{3}{4}$ of the cost of the super-advanced F-22 for $\frac{1}{2}$ the capability in the JSF.⁸⁶ Of course if the JSF remains on budget and timetable then it would be $\frac{1}{2}$ the cost of the cheapest possible F-22 and therefore remain the right choice.

EARLY WARNING



Another acquisition program that strives to represent the cutting edge of the RMA, and consequently has the potential to unravel, relates to the decision to finally make good on a decade old promise to acquire an Airborne Early Warning and Control capability (AEW&C). Like the F-111 and JSF, the RAAF has opted yet again for an aircraft so *technologically advanced* that its design has yet to be completed. In fact, given the current state of project development it is not so much an aircraft as a concept. The 737 has never been used in this role before and the totally new radar system, it works, will be unique in the world.

Already the project is in trouble. The initial buy was cut from 7 to 4 aircraft, the 737 airframe is not large enough to accommodate all the systems the ADF wants on board, nor has the new radar housing been test flown in a wind tunnel let alone on a 737 airframe. The AEW&C control system requires millions of lines of code to be written locally, a key factor in the ca.\$1bn cost blow-out of the Collins Class submarine. There is still so much work to be done before an example of this novel concept takes to the air that there is plenty of time for the AEW&C to gain the title "son of Collins".

The ADF rejected all existing AEW&C systems, including the modern and successful tried and tested 767-conventional radar combination in use with the Japanese Defence Force (seen right). The 767 has sufficient room for all ADF operational requirements and can be maintained by any contractor that maintains 767 passenger jets.



While the same can be said for the 737 concept, there is an additional factor that should have been considered in the AEW&C selection process. With the ADF committed to buying aerial tanker aircraft and the USAF about to replace their aging fleets with a new 767-based tanker/cargo aircraft, logistic, maintenance, and training commonality could have been achieved had the ADF selected the 767 AEW&C.

Not only is the AEW&C project highly likely to experience costly technical trouble because the RAAF selected a novel drawing board concept instead of an existing system, with a stark decline in combat pilot numbers and too few serviceable F-18s, the AEW&C will turn out to be a *force divider* (instead of a force multiplier) as the few available fighters swarm to protect what is in essence a big fat juicy defenseless target.

⁸⁶ My thanks to Dr Carlo Kopp for this quote in several discussions on this complex set of technological issues.

While the JSF decision at least spreads risk among a number of program participants, the ADF is going it alone with the AEW&C. It may well be that the extraordinary promise of the technology delivers a highly valuable asset to the ADF, but the risks associated with the program suggest that there is a greater downside to the AEW&C than even the high-risk JSF. With 50,000 personnel, an annual budget of US\$7bn, and a low technology threat environment, it is ludicrous that a defence force the size of the ADF should undertake the costs associated with design, development and production of hyper-advanced military technologies. Once its tried and tested, the ADF should by all means acquire the very best capabilities that the taxpayers defence dollar can afford, but it is simply not sustainable for the ADF to build these systems from the ground up without mitigating the very high risks involved.

MARITIME OPERATIONS

SUBMARINES

The textbook example of the disconnect between the ADF's seemingly insatiable desire for the very latest military technology (preferably that which is so advanced it has not yet left the drawing board) and the ability of the nation to financially and technically support the ADF's systems is the Collins Class submarine fiasco. With Britain selling submarines at the time, instead to undertake a program without any without experience in technologies required. The program was estimated to cost \$5bn but it was recently revealed that costs have blown out by an additional \$3bn!⁸⁷ An interim report stated that the submarines were leaking 300lts of water per hour due to faulty seals, that sea water was



appetite for RMA Class submarine fiasco. capable conventional Australia decided submarine building prior experience and many of the key The program was but it was recently have blown out by an interim report stated were leaking 300lts of faulty seals, that sea

contaminating the fuel and leading to engine seizures, propeller failures (excessive cavitation and cracking), excessive noise, excessive vibration of periscopes, even the hull design was faulty having received less tank testing than most commercial vessels.⁸⁸ While these are all serious problems, the key failure was the combat system – it simply did not work. The control system was a classic ADF RMA over-reach issue, it was a cutting edge design incorporating a range of sensors and controls all on the one system. It was supposed to revolutionise the operation of the submarine and cut down personnel numbers, it was an object failure. The report found that:

Not only has no submarine yet gone to sea with anything like its full complement of operational capabilities, but each invariably returns with even less.

⁸⁷ ABC TV "7.30 Report" 3/9/02, <http://www.abc.net.au/7.30/s666363.htm>

⁸⁸ McIntosh, M., Prescott, J., Report to the Minister for Defence on the Collins Class Submarine and Related Matters, June 1999, p.10.

Many of the problems with the subs have been fixed. For example, the control systems have been replaced by tried and tested systems and the poorly designed hull has been modified with fibreglass tapering.

There is no doubt that building a submarine capacity from a greenfield site is a major national achievement and that when fixed the subs will no doubt provide Australia with an impressive military capability, but at what cost? With effective and operationally viable British conventional boats available the government of the day, with the full support of the ADF, decided instead to go for a drawing board concept and taxpayers had to pay an additional \$3bn for a capability that required major fixes. Yet again the ADF's desire to acquire the absolute cutting edge had exposed it to risks and costs it simply cannot afford and in this case left Australia without a submarine capability for some extended period of time.

AMPHIBIOUS SHIPS

East Timor caught the ADF off guard. In addition to political, planning and financial constraints, there were deep gaps in ADF heavy sea and air lift capabilities as this author reported at the time.⁸⁹ These gaps were filled in the short term by leasing a fast catamaran from InCat ship builders in Tasmania, and Russian Antonov aircraft and crews.

There were some lessons to be learned by that experience but it is clear the ADF did not



heed them. First, even though East Timor was well within the Australian theatre and therefore existing policy and planning mechanisms, logistically the ADF was still unable to adequately support the mission with existing capabilities.

Second, the catamaran with its extraordinary capabilities was abandoned by the ADF after Timor. HMAS JERVIS BAY could move 500 fully equipped troops with their vehicles, including armoured personnel carriers, light armoured vehicles and trucks. The boat's maximum range is approximately 1500 nautical miles, at speeds of more than 40 knots. JERVIS BAY'S commanding officer, Lt. Cdr. Jonathan Dudley, RAN., stated during the Timor Operation "We can make up to three runs a week between here (Darwin) and Dili, East Timor," Dudley added that JERVIS BAY'S crews have made the 430 nautical-mile (~1000km) route between Darwin and Dili a total of 74 times in the 12 months from September 1999 when the operation commenced. "It's really quite amazing, especially when you consider our capacity on each trip."⁹⁰

⁸⁹ Cobb, A.C., *East Timor and Australia's Security Role: Issues and Scenarios, Current Issues Brief 3, Parliamentary Research Service 1999.*

⁹⁰ September 2000, USN news report. See <http://www.c7f.navy.mil/news/2000/09/16.html>

However, the lesson was not lost on the US Navy (USN). The USN is currently trailing a new InCat vessel in the Persian Gulf and sees it as a key transformational capability for the US Navy in the 21st Century.

In stark contrast, pre-Timor, the RAN had rushed to purchase two mothballed and outdated US amphibious vessels offered by the USN on the cheap. The Navy paid just \$61m for both ships, slightly less than the cost of one InCat ship. Because the condition of the old USN ships was



significantly worse than expected, the total cost of the project was calculated by the ANAO to escalate to \$445m.⁹¹ An additional \$60m should be added to that as the cost of leasing the Timor catamaran while the ex-USN ships were in dry dock. On top of that the USN ships require a crew of 180 whereas the catamarans only require 25.

So for half a *billion* dollars the RAN acquired two outdated, slow moving, old technology, American ships, due to be retired in 10 years after their upgrade and refit, while the USN is investigating Australian state of the art ship building technologies at around \$100m a copy. So much for an Australian RMA!



HMAS ANZAC. NEGS HELD AT ELECTRONIC MEDIA UNIT (CANE)

The ANZAC class frigate is another case in point. Originally designed with only a 5 inch naval gun to supplement the patrol boat force in the littoral waters around the northern coastline, the \$6bn ANZAC program's vessels have suffered mission creep ever since. They were recently upgraded with 8 Sea Sparrow self defence missiles per ship and are due to take Harpoon missiles in the next upgrade. Notwithstanding these improvements, the ANZACs would not survive low intensity combat, nor were they designed for anything more than enhanced patrol operations, and

yet they are routinely on blue water deployment to the Persian gulf.

The ANZACs were too small to accommodate the Seahawk helicopters used on the RAN's other ships so orders were placed for smaller Seasprite helicopters (\$1bn). The aircraft are five years late and the company that produces them was forced out of the defence market. A few airframes dating from the 1960s exist but the radar, data link and weapon

⁹¹ Australian National Audit Office (ANAO), Amphibious Transport Ship Project, ANAO Report 8, 2000-2001, p.12.

are not integrated. The best that can be said of them is that they are very expensive trash haulers.

AIR DEFENCE DESTROYERS

The 2000 White Paper committed the ADF to acquiring a class of “air-defence destroyers”. It may be that in reaction to the excesses of past high-tech acquisition failures, the ADF could choose a low-end platform. In the case of this much needed capability, that would be a major mistake.



For a time the RAN was seriously investigating the purchase of four US Kidd Class ships manufactured for the Shah of Iran and subsequently not delivered after the revolution. These old labour-intensive vessels lack many of the advances in technology that the ADF is normally so single-mindedly keen on buying. Their military effectiveness is such that instead of using what became

essentially free ships, the USN mothballed them and offered them on the international market on the cheap. Most likely, had their purchase not been stopped, they would have been a repeat of the costly Amphibious program – apparently cheap to begin with but outrageously costly to modernise for combat.

Notwithstanding all the missile systems being loaded onto the ANZACs they are insufficient as major surface combatants. Indeed, they were never supposed to undertake that role. That really only leaves two choices, the US Aegis class destroyers or a European derivative of same. The bottom line is that the European ships, while impressive, are new concepts, are too small in the regional context, not as well armed and not as technologically as capable as the US ship which they seek to emulate. In this case, the ADF should acquire the larger, more expensive and best capability in part because unlike its cheaper competitors, it is a tried and tested capability and for the marginal difference in cost would deliver substantially more military capability.

Indeed, had the ANZAC monies (ca. \$6bn – plus a margin for the added cost of the US ships) been used to purchase 2-4 Arleigh Burke class air defence destroyers, not only would the ADF have got one of the most advanced radars and C³I systems in the world, it would have also bought a potent and flexible coalition operation capability, a formidable strike platform, a fundamental building block for a missile shield, and a ship capable of defending both itself and the sea air gap from any air or naval threat likely to emerge in the region in the next 20 years.

The Aegis system was designed as a total weapon system, from detection to kill. The heart of the system is an advanced, automatic detect and track, multi-function phased-array radar, the AN/SPY-1. Because it has fixed sensors the radar provides instant real-time information, rather than the critical delays involved in rotating arrays – in the age of hypersonic anti-ship missiles, hundredths of a second could mean the difference between life and death. This high powered (four megawatt) radar is able to perform search, track and missile guidance functions simultaneously with a track capacity of over

100 targets.⁹² Ships of this class have one of the best sea-keeping hull forms, as well as new stealthy naval design characteristics that reduced infra-red and radar cross section. The latest ships in this class (Flight IIA) have an improved Aegis system which make them extremely capable in littoral environments (like those found in Australia's approaches), incorporation of embarked helicopters (SH-60R), an organic minehunting capability and the introduction of area theater ballistic missile defense capability to protect near coastal air-fields and seaports essential to the flow of forces into theater in time of conflict.



Arleigh Burke Class (IIA) CONOPS

They are armed with a 96-cell Vertical Launching System capable of storing and rapidly firing a mix of Standard, Tomahawk, Evolved Sea-Sparrow, and Vertically Launched ASROC (VLA) missiles for either Air Defense, Strike Warfare, or Anti-Submarine Warfare missions. Other armament includes the Harpoon anti-ship cruise missile, and the 5"/54 gun with improvements that integrate it with the AEGIS weapon system. The torpedo reload magazine also accommodates Penguin and Hellfire air-to-ground missiles, Stinger infrared surface-to-air missiles, LAU 68 2.75-in rockets, and 25-mm gun and 40-mm grenade ammunition. It is able to carry up to 40 torpedoes for shipboard and helicopter use.⁹³

⁹² <http://www.chinfo.navy.mil/navpalib/factfile/weapons/wep-aeg.html>

93 <http://www.chinfo.navy.mil/navpalib/factfile/weapons/wep-aeg.html>,
<http://www.globalsecurity.org/military/systems/ship/ddg-51-flt2a.htm>

and

That kind of comprehensive maritime capability combined with the new advanced AEW&C, JSFs, long range wide bodied inflight refuelling, and an enhanced indigenous Australian satellite capability (assuming all goes well in each acquisition), would pose an incredibly potent capability for the ADF into the foreseeable future. The Arleigh Burke destroyers would round-out the force into a comprehensive strike and defence package. They would provide a shield across the sea-air gap and, with the addition of Tomahawk cruise missiles, the destroyers would significantly enhance Australia's declining strike deterrent. The acquisition of cruise missiles would be immensely controversial but nevertheless necessary due both to the spread of similar technologies into the region and because of the deterioration of Australia's long range strike deterrent. In terms of the increasing limitations on the ORBAT, financial and other operational constraints, cruise missiles will inevitably become a part of the ADFs ORBAT - why not acquire them together with the Arleigh Burke destroyers as part of a comprehensive RMA solution rather than tacking them on to some lesser platforms in haste when a conflict arises?

Too often in the past the ADF has adhered the time honored conceit of fitting ADF combat platforms "for but not with" those weapons and systems that actually make them able to engage in combat! This might have been a good cost cutting idea in peacetime but it is downright dangerous in an age of surprises.

The ADF cannot afford to be the testbed for huge, complex, and unique defence projects like the submarines and early warning aircraft. It is right that the compact and resource-poor ADF should seek to maximise advanced technology to compensate for the tyranny of distance. But its is flagrantly irresponsible to pursue technologies so advanced and untested that they will almost certainly be grossly over budget and years late entering service. RMA technologies, especially systems integration – possibly the hardest RMA task of all - can be a very powerful tool for small advanced forces like the ADF. However, much more careful consideration has to be given such important decisions – especially of the political, strategic and other non-technical issues pertaining to RMA driven acquisitions. Going all the way with the RMA without due consideration of political, economic, and strategic reality, may only serve to undermine Australia's defence.

CONCLUSION

This entire discussion has focused on the poor versus the rich. As the seemingly endless defence industry merges, acquisitions and global procurement programs attest - along with a range of other political, economic and social factors - advanced rich states no longer need to resort to the use of force to resolve conflicts. If they did, they would not join together, as in the JSF and many other projects, and acquire exactly the same military systems. Nor can rich states afford modern conflict in the face of conventional mutually assured destruction wrought by the advent of the RMA for those who can afford its hideous bounty. The poor will continue to kill one another far away from the prying eyes of the world. The future of major conventional and terrorist conflict will be between rich and poor in a struggle over the ever-widening chasm between those at the top and bottom and the very different ideologies that serve each parties interests.

ADF Major Acquisition Failures	
•	Collins Class Submarine
•	Kanimbla Class Amphibious Ships
•	Seasprite helos
•	Over the Horizon Radar
•	AGM-142
•	Bushmaster Vehicles
•	
	Total \$5bn
Future Possible ADF Acquisition Problems	
•	AEW&C
•	JSF
•	Air to Air Tankers
	Possible Total \$10bn

In such conflicts, the centre of gravity will rarely be physical for either side and thus the utility of conventional force will decline in favor of alternative strategies. This does not bode well for a deep reliance on the technological superiority of conventional military forces at the heart of the RMA concept. On the contrary, if deep transformation of not just defence forces, but the whole way of perceiving and responding to security issues does not occur, then trouble is almost certainly going to be given an opportunity.

Australian defence policy has left the country in a double jeopardy – Australia is open to *both* asymmetric attack (due to policy blindspots) and conventional attack (as extant capabilities decline and tensions mount). Focusing *only* on developing an RMA force, exposes a weakness in defence against unconventional security threats. Yet at the same time mistakes, delays, and mis-allocation of vitally needed funds in the hot pursuit of a poorly conceived RMA force structure can potentially undermine deterrence and invite a conventional attack.

The Australian obsession with a purely technological interpretation of the RMA ignores the much bigger issue of defence transformation. ADF planners must re-introduce Clausewitz into their thinking and question the role of force in the contemporary era. Instead of constructing modern day Maginot lines of advanced military technology as an ultimate and impregnable shield designed for just one task– the fundamental questions of who, what, where how and why, have to be re-considered. Not only must the deeper political questions be asked but consideration of methodologies, management structures, means and ends must be comprehensively addressed.

Most opponents will seek asymmetric advantages by side stepping a comprehensive and well structured RMA force if they are able. That does not mean however that conventional forces can be forgotten and left to decline. If a conventional force has significant weaknesses, more often than not the path of least resistance leads to effective and spectacular attacks against the force. Remember Somalia, Vietnam and Afghanistan.

That leads to a final paradox in a project littered with what at first might seem irreconcilable inconsistencies – it is necessary to have an advanced and comprehensive RMA force in order to reduce the number and effectiveness of options available to an opponent. Having achieved a state of comprehensive conventional deterrence it is then necessary to devise innovative strategies to deny the opponent an asymmetric advantage. Agility of the mind and not a high-tech system of systems will be the fundamental first priority of the sophisticated strategist of the early 21st century. Security is becoming more difficult with technological advances, not less, as might first be expected.